

ORAL HYGIENE

MARCH, 1918
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ORAL HYGIENE

PUBLISHED MONTHLY

EDITED BY WM. W. BELCHER, D.D.S.

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ORAL HYGIENE

A JOURNAL FOR DENTISTS

VOLUME VIII

MARCH, 1918

NUMBER III

A PRAYER

I do not pray for peace
Nor ask that on my path
The sounds of war shall shrill no more,
The way be clear of wrath.
But this I beg Thee, Lord,
Steel Thou my will with might,
And in the strife that men call life,
Grant me the strength to fight.

I do not pray for arms,
Nor shield to cover me.
What though I stand with empty hand,
So it be valiantly!
Spare me the coward's fear—
Questioning wrong or right:
Lord, among these, mine enemies,
Grant me the strength to fight.

I do not pray that Thou
Keep me from any wound,
Though I fall low from thrust and blow,
Forced fighting to the ground;
But give me wit to hide
My hurts from all men's sight,
And for my need the while I bleed,
Lord, grant me the strength to fight.

—Theodosia Garrison, in *The Earth Cry*.

MOUTH HYGIENE IN THE PUBLIC SCHOOLS

FREDERICK A. KEYES, D.M.D., Boston, Mass.

20.11.13.
The title of this article as presented by the author at the Free Public Health Lecture Course of the Forsyth Dental Infirmary, "Mouth Hygiene in Public Schools and Institutions," was too long for publication and we have divided it into two sections. "Mouth Hygiene In Public Institutions" will follow in an early issue.

THIS afternoon I am to talk to you about mouth hygiene in public schools and institutions. Before entering upon this subject, however, I think it advisable to say a few words to you about the most important dental diseases and their relative importance to the general health.

The records of the practice of dentistry date back in the case of the Egyptians to somewhere about 3,000 years before the Christian era. Even at this early period we have some evidence that methods were in vogue for the prevention of dental disease. For instance, the Ebers papyrus, probably compiled gradually from 3,000 B. C. to 1,500 B. C., contains the following prescription for strengthening the teeth; "powder of flint stone 1 part, green lead 1 part, honey 1 part—to be rubbed on the teeth" (not a bad dentrifice by the way). In Chinese history there are many similar references made to the care of the teeth and attempts to prevent caries. The Greeks, also, were familiar with the importance of good teeth. Aristotle, in his treatise, "The Problems" came very near to the present day accepted theory of the cause of caries, or tooth decay, when he said, "Why do figs when they are soft and sweet produce damage to the teeth? Perhaps because the vicious softness of the fig causes small particles to adhere to the gums and insinuate themselves in the dental spaces where they very easily become the cause of putrefactive processes." The Romans were the first to use tooth picks of bone or metal to clean the food deposits from between their teeth.

The celebrated scientist, Lervenhock, was the first to observe that microscopically small organisms exist in the human mouth in great numbers. In a treatise bearing the date 1683, he gives a description and diagram of several kinds of bacteria from the mouth which show that the inferiority of his instrument compared with those now in use did not prevent his obtaining a fair view particularly of the spirillum sputigenum. In spite of the utmost care which Lervenhock bestowed upon the teeth and oral cavity he was nevertheless able to detect five different kinds of animalcula in a certain white matter between the teeth.

Recently Miller's theories are being questioned and Dr. Howe at the head of the Research Department, Forsyth Dental Infirmary, has found two acid forming flora—Mero's-acidophilus and Tiniers bifidus, which he claims after much

experimentation are probably the specific bacteria which produce caries. The normal location of these germs is in the lower bowel and feces of the nursing infant. In the adult also they are found, but not so numerous, and the formation is changed to a form of coli bacilli. Dr. Howe took eighty different cases and found a pure culture in a hundred per cent. Their growth is very prolific in the carbohydrate media.

From this brief historical survey of caries it may be presumed that dental research will soon find the real causative agents of caries.

No subject in dentistry has received the attention of medical men and laity, as well as the dentist, to the same extent as pyorrhea. There are evidences of pyorrhea in the jaws of the Egyptian mummy, but it was recognized and described first by Fauchard, a French dentist (1680-1761) and later more accurately by Riggs in 1875. Since that time there have been enough remedies invented for the cure of this disease and medicine taken to produce a new Atlantic ocean. The latest craze was that of Bass and John who claim to have discovered the specific germs for pyorrhea, naming them as the Ameoba Buccalis and P. F. The strange thing about this discovery is the fact that the ameoba which Bass and John discovered, is identical with the Endameba Buccalis discovered 1845 or thereabouts. The actual cause of pyorrhea we do not know. It is a mystery. We think it is a mixed infection, or from mechanical causes, a matter of diet, etc. Gums are perhaps too hard and small particles of the tooth brush get under the gum and act as an avenue of foci for germs. As I said before, we do not know.

A word about apical abscesses. We have two kinds of tooth abscesses—acute and chronic. The causes of these abscesses are invasions of pus producing bacteria. That is about all we know about it. An alveolar or apical abscess has the same etiology or cause as an abscess in any other part of the body.

Thus far I have briefly summarized the cause of caries and pyorrhea and of alveolar abscess as far as we know at the present date. I feel that these introductory remarks relative to these diseases will impress upon you the importance of the teeth and the gums from a pathological point of view.

My next consideration is what effect do caries of the teeth, pyorrhea and alveolar abscesses have on the general health of the patient? The nutritive value of good teeth is apparent to all. Without a proper set of teeth, food cannot be properly masticated and, therefore, we have an increased amount of work passed on to the stomach. A decayed cavity is an ideal incubator for bacteria. The bacteria which cause caries may not be productive of systemic diseases in themselves but the cavity formed with the ideal conditions of

moisture, heat, darkness, etc., is a prolific source for the growth of bacteria which are omnipresent in the mouth. Progressive caries, that is, where the cavity enlarges, producing acute pulpitis, acts as a nervous factor and aids in debilitating general bodily health. A dead pulp, with a dirty, putrid nerve lying in the root canal, containing virulent bacteria of all kinds particularly of the streptococci type, eventually causing an acute or chronic abscess, is obviously a real focus of systemic infection. In an acute abscess the symptoms of increased temperature, lassitude, and all the symptoms of an acute infection, produce ideal conditions for bacteria in other parts of the body to become virulent. Chronic abscesses, with slow formation of pus, absorption through the lymph blood or alimentary tract, become lodged in distant points of the body such as the joints, increase in virulence in their new fertile field and are the real primary factors in rheumatism or arthritis.

To prevent caries, pyorrhea and apical abscesses, etc., we must begin with the child. A child's deciduous or baby teeth should be as carefully watched as its permanent teeth. Small cavities should be filled immediately and the child taken frequently to the dentist for examination. All of the baby teeth are in the proper position at the second year and they should remain in place until absorbed and forced out by the permanent teeth. The six year molar teeth which, as the name indicates, erupt at the sixth year, should be zealously guarded for caries and promptly treated when found. Some authorities claim that tooth decay may be prevented by keeping the mouth clean with tooth brush, mouth washes, etc. In some cases we find that most excellent care will not prevent decay of the baby teeth, and whether or not this is a real disease has not yet been decided. Prophylaxis is very important and should include not only the individual care of the mouth and teeth but dental care by the family dentist and dietary regulation when indicated.

Relative to diet. The best diet for the prevention of caries consisted of food which will properly stimulate the salivary glands. These foods are mostly acid, such as apples, pears, fruits of all kinds. Each meal should be started with an acid food and finished in the same manner. Bread, butter, cake, biscuit and chocolate are the articles which are the last consumed at night in the majority of cases, articles which adhere strongly to the teeth, form the greatest amount of fermentation and produce the least flow of saliva. Therefore an apple, pear, or other fruit which will stimulate the saliva should be eaten the last thing at night. Incidentally I might state, that the present lack of sugar is from a dental point of view a blessing in disguise. We have been eating too much sugar. As an instance of this I will quote the following

statistics showing the marked increase in sugar consumption in the United States since 1871:

In 1871 the consumption of sugar per capita was 36 lbs.

In 1881 the consumption of sugar per capita was 43 lbs.

In 1891 the consumption of sugar per capita was 61 lbs.

In 1901 the consumption of sugar per capita was 71 lbs.

In 1911 the consumption of sugar per capita was 77 lbs.

In 1912 the consumption of sugar per capita was 82.4 lbs.

showing an increase of over 100 per cent—46 lbs. per capita.

The greatest cleansing agent that we have is the natural chewing of the food, this natural mastication and moving of the jaw cleaning the teeth better than any tooth brush or dentrifice ever invented. In uncivilized countries where food is very coarse, caries is almost extinct. In civilized countries the foods are too soft, having too high an acid potential of being not sufficiently stimulating to the salivary glands and not sufficiently cleansing. Nature eliminates any organism which is in disuse. Gradually the human race are losing their wisdom teeth. We very seldom find a patient with thirty-two teeth. Sometimes we find two wisdom teeth in the lower jaw and none in the upper, or one in the upper left and one in the upper right. It is not long before the wisdom teeth will be entirely eliminated. It all goes to show that if we masticate our food as Fletcher advocated, chewing thoroughly, we would all have our wisdom teeth. This chewing of food is not only valuable to us from an artistic point of view, but it is also of great value to our physical condition, as the mastication of our food in the proper way has much to do with good digestion, etc. Fletcherism is a prophylactic measure against caries. Pyorrhea may be prevented by constant dental attention, massage of the gums, the use of normal salt solution for a mouth wash, proper regulation of the diet and the practice of general hygienic principles. In a case of real pyorrhea, the only way is to take the tooth out.

This introduction will prove to you the importance of diseases of the teeth as factors in general bodily diseases, and the necessity of preventing these as far as possible.

Let us now consider prevention as applied to the schools. School dentistry even to the superficial observer, is of such gigantic proportions that even to partially handle it would daunt the most daring. The beginning of school dental hygiene is found in 1893, when Dr. Rersa, an instructor in dental medicine at Freiberg, Baden, received permission to examine the teeth of the students of Freiberg and vicinity, and he intended to prove that the care of the teeth should not begin with adults but with the children. Similar examinations were afterwards made in other parts of Germany and also in Sweden. The results of all the inspections by Dr. Rersa from 1893 to 1904 were as follows: 160,588 pupils were examined.

The total number of teeth in these pupils was 3,765,323. Of these, over 1,500,000 teeth were defective. These startling figures showed conclusively the need of dentistry in German schools and steps were immediately taken to remedy the conditions; fifty per cent decayed teeth by actual count at the start.

In our own country spasmodic attempts have been made to improve dental conditions among public school children which have met with varied degrees of success. There is still room for improvement. Dr. Irving Fisher of Yale has stated that there are at all times, 3,000,000 people in this country who are seriously ill. If this is true, and we have such an authority as Dr. Osler stating that there is not any one thing more important than the hygiene of the mouth, it is obvious that more attention to mouth hygiene might prevent some of the 3,000,000 serious illnesses.

It has been estimated that over 10,000,000 children in the United States have defective teeth, 5,000,000 have enlarged glands and 7,000,000 suffer from defective breathing, due to adenoids. These are conservative estimates. Each year 250,000 children are graduated from the elementary public schools of this country. 250,000 more have dropped from the ranks each year and have failed to complete the grammar school course. Of these 250,000 who failed nearly one third were due to poor health. It has been estimated that nearly forty percent of the absences in public schools today is due to the teeth. Manufacturers of artificial teeth in this country produce over 100,000,000 artificial teeth each year, which go to replace actual teeth, which if proper care and attention were given to the children's teeth, would never have been lost.

Let us consider the situation here in Boston. Previous to the opening of the Forsyth Dental Infirmary, the children of our city received free dental treatment at Harvard and Tufts Dental Colleges, and at a few hospitals which had outpatient dental clinics. These points I have brought out in an article which was published in the *Boston Medical and Surgical Journal* in November, 1912. At that time there were 151 chairs given up to the practice of dentistry. Of these 131 were used by students in the dental colleges. In fact, it was almost impossible for a child to have his teeth fixed because adult patients always had the preference. They had more money to pay and the dental college needed the money. After eliminating all of the free adult dental clinics, there were exactly four dental chairs left which could be used exclusively for children. Then Forsyth Brothers arose to the occasion and filled this great need. With the deepest feeling of gratitude for this munificent gift to humanity and to the dental profession, I always have been and am inclined to believe that local clinics are superior to one centralized clinic in a com-

munity. But with this wonderful infirmary as the centre I have hopes that we will have many local clinics spring up in various parts of Boston, thus utilizing both methods, the local and centralized clinics. The role usually given to me is a disagreeable one, and that is, that of a critic. Figures are quite impressive, but often times when used as a means of proving the excellent condition of children's mouths are very misleading. With the valuable aid of Forsyth, the Boston school dental conditions have improved to a great degree. But let us see if there is not still room for further improvement. In September, 1915, Dr. William Devine was appointed Director of Medical Inspection in the Public Schools. At the same time forty school physicians were appointed by competitive examinations, with a like number of school nurses. Dentistry received no recognition. At a meeting of the School Committee June 1, 1916, it was ordered that the Director of Medical Inspection is required, during the next school year and hereafter until further notice, in the work of his department, for the improving of the conditions of the children's teeth, to pay special attention to the kindergarten and lower grades, and so far as possible to secure the co-operation of the various dispensaries in so doing. That all pupils of grade seven shall be urged to have such dental treatment as they need and their teeth and mouth shall be carefully examined by the medical inspector in the month of May each year. Notice again the entire absence of any mention of the appointment of a dentist to take care of this specialty in medicine.

The number of pupils escorted to Forsyth weekly by school nurses is well over 500. The Superintendent of the Boston schools deems it inadvisable at the present time to allow children in the higher grades to have dental work done during school hours. Many school physicians and educational authorities and medical men, and in fact, in many cities where dentistry depends entirely upon municipal appropriation have proven that this contention is erroneous.

Forsyth Dental Infirmary estimates to handle in the neighborhood of at least 50,000 pupils each year. These children spend ten cents each for car fare, making an expenditure of \$5,000 per year. The average time lost from school in going to and from Forsyth in the street cars and the time spent having work done in the infirmary averages about three hours. It is estimated that it would cost three cents an hour to educate a child. Three hours would make it nine cents that the city is spending and receiving nothing in return. With 50,000 children taking our treatment the city expends in time lost from school \$4,500.

A nurse's salary is \$3.00 per day (very poor salary for a well trained woman). There are at least ten nurses a day

escorting children to Forsyth, making \$30.00 a day which the city of Boston is paying nurses to do a matron's duty, or in five school days \$150 per week the city is spending to have children taken from school to Forsyth and back again, a yearly expenditure of \$6,000.

The nurses' car fare yearly amounts to \$250.00.

A school physician's yearly salary is \$600.00.

Referring to the order of the superintendent that the medical inspector examine the teeth of children during the month of May, we have the city of Boston spending forty-two dollars a month for each physician who is examining teeth, which makes a total of \$1,680 for the month of May for the school physicians to receive for dental examinations.

What are the remedies for these conditions? Let us consider our first criticism. That is that over \$5,000 is spent by children's parents yearly for transportation to and from Forsyth Dental Infirmary. This could easily be eliminated by bus service which would carry forty or fifty children at a time in half the length of time and with much greater degree of safety from accidents, climatic conditions, poorly ventilated cars, etc. This \$5,000 alone spent by parents would buy one or two jitney busses which could be run at half the expense of the present expenditures.

To consider the second criticism, which is the amount of time lost from school. The jitney would save at least one-half the time over the street car lines, so that the child could return to his studies in fifty per cent less time, which would save the city of Boston in money spent for education over \$2,250.

To consider the next criticism. Nurses could be entirely eliminated from doing this duty which requires only an unskilled woman to do, and the city would receive \$150 medical nursing each week, which is at present spent in other branches. Five jitney busses, at the most, would require only one matron to a jitney, receiving half the salary paid to the nurses, or \$1.50 per day for each matron, a saving of \$7.50 a day for five matrons, or about \$50.00 per week, instead of \$30.00 a day and \$150 dollars a week which is now being spent for the nurses to take the children.

To consider the fourth criticism. The nurses' car fare of course would be entirely eliminated, a saving of over \$300 per year.

The fifth criticism. Two paid dental inspectors to examine the teeth of the children throughout the whole school year should be appointed, thus relieving the forty school physicians for the whole month of May for their own important duties. The salary of these paid dental inspectors would save the city \$1,680 worth of poor service given by the medical inspectors for limited work during the month of May, be-

cause no medical man can or should be expected to examine teeth.

These are only a few suggestions for the improvement of the present day school dental conditions here in Boston. Before Forsyth's time the dental conditions of the public school children were absolutely neglected. The city of Boston did nothing to help. Since Forsyth's time the City of Boston has been contented to sit idle and receive the benefit of this great institution. The city of Boston should buy these jitney busses and should be willing to pay the salary of dental inspectors in the public schools, when you take into consideration the thousands of dollars that are being expended in this institution each year, it is the least they might do. Up to the present time, the city of Boston has given no recognition to the dental profession and the only interest that has been manifested has been through the medical director, who is most eager to help as far as he is able but is tied down by lack of monetary appropriations.

A DENTAL CLINIC

C. EDMUND KELLS, D.D.S., New Orleans, La.

A LITTLE over a year ago the writer spent a few days at the Mayo Clinic, and saw enough to keep him *thinking* ever since.

Some time later, he wrote a short account of the visit, and reveries thereon, for the *Michigan Dental Journal* in which the little article was undoubtedly buried out of sight.

Why do thousands and thousands of the afflicted of all kinds travel the well-beaten path to that little Minnesota town year after year? Is it to see the Mayos themselves? Not at all, for the Mayos themselves long since learned that no man, or no two men could know it all, even if their names happened to be Charles and William Mayo, and so gradually brought into their "Clinic" specialist after specialist—one of the best of his kind in each specialty—until today when they probably have the very best staff of trained men that are under one roof and one direction anywhere in the world.

The result is that let anyone go to the "Mayos," no matter what his trouble, there he will find a *specialist in his line* with the *ability* and *equipment* to give him the very best attention that is known.

And back of all these specialists is the surgical staff with the famous Mayo Brothers themselves at its head, and directing all the various ramifications of the gigantic Clinic, with all the details of which they are completely in touch.

It is not so very many years ago that the Eye, Ear, Nose and Throat specialist (all in one) was about the only specialist

to whom the general practitioner could refer any one, he, the general practitioner, taking care of all other ailments.

But during the past twenty-five years or so, specialty after specialty has been organized, until probably the umbilicus is the only part of the anatomy not the divine object of some specialist. So much for medicine.

What now, about dentistry? When the writer was handed his sheepskin in 1878, he was accredited with being fully capable of practicing the entire art, from the making of "continuous gum sets" right on down the line to the extracting of deciduous teeth. There was nothing in his line but that he was in duty bound to tackle, because there were no specialists at all to whom he could refer anything whatever. But there really was not very much "in his line" after all, in those days.

However, during these intervening years of practice, he has seen two very important changes:

1. The development of the art of dentistry, far beyond the expectations of those early days, and
2. The development of its various branches far beyond the capabilities of any one man.

Filling, crown and bridge work, porcelain work, orthodontia, prosthodontia with its modern methods of impression taking, prophylaxis, periodontia, minor surgery, exodontia, Roentgenology, etc., etc.—where is the man who can do all these things to his own satisfaction *even if he had the time?* There is no such man, and there is *no such time*.

We must not lose sight of the fact that for a man to decide that he will *specialize*, does not necessarily mean that he will make a good specialist. A six weeks' course in orthodontia will not necessarily make a good orthodontist out of a man who has made a failure out of dentistry. Nor can an *incompetent dentist* be transformed into a first-class prophylaxist over night. But the fact is a glaring one that a *good* man can obtain better results by concentrating all of his energies upon a somewhat narrow field, than by spreading them out over a wide one.

Such being the case, and it being admitted that the various specialists of today are with us to stay and that their advantages are fully recognized, then the logical result would be that a dental clinic based upon the Mayo idea, would be a tremendous success from a practical standpoint.

Imagine, if you will, a good, practical, *safe and sane* man of experience at the head of such a clinic! He would be, let us say, the diagnostician, and as such, would examine every case that came in. Associated with him would be a first-class specialist in every branch in which one was indicated. Can a better proposition for the general good of the public be imagined?

Dentistry has made wonderful strides in recent years, and

the next great step in advance will be the establishment of just such clinics as are here outlined.

THE DENTAL TRAIN

JOHN PHILIP ERWIN, D.D.S., Perkasie, Pa.

Prime purpose: to impress upon the child the fact that the dental organs are governed by well defined laws

Teach the names of the teeth; how, when and where they erupt, and a few helpful truths concerning their arrival and departure.

Materials, use the blackboard according to the directions set down in the text of the lesson, charts showing the upper and lower deciduous and permanent arches, the teeth being numbered to correspond to those written on the blackboard.

At the close of the previous lesson give a list of the following words to the regular teacher. Request that they be included in several spelling lessons and the children familiarized with them. A brief review and definition of these words form an excellent introduction to this lesson.

The words are: superior, inferior, central, lateral, cuspid, bicuspid, molar, deciduous, permanent, erupt, hygiene and incisor.

Length of lesson 30 minutes.

Author's Note.

WERE you a close observer at a railway terminal, you would learn that trains have a particular name and number, a certain track on which to enter, a definite time to arrive and are made up according to services required.

There is a well-defined system governing the handling of trains. Everything possible is done to transport passengers safely from one point to another. Safeguards of every description are placed along the way. Thus travel is both safe and pleasant.

Teeth, like the trains, have a particular name and number, a certain place in which to erupt, a definite time to arrive, and are constructed according to services required.

There needs to be a well-defined system to govern the handling of the human dental train. Everything possible should be done to assist this dental train to carry us safely through life. We should protect our teeth even as the men guard the trains. Thus we shall enjoy uninterruptedly our dental blessings.

To learn more about this dental train we must consider the names of the teeth, where, when and how they arrive in the mouth.

Every normal, human being develops two sets of teeth. The first are called milk, baby, temporary or deciduous teeth. To study the first set we draw a horizontal line, writing the letter U above for the upper, and the letter L below for the lower teeth.

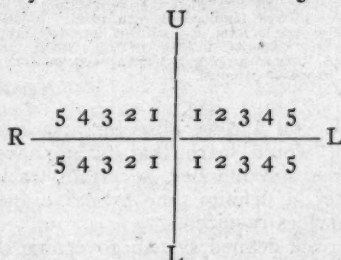
Next, we draw a perpendicular line through the center of the first, writing the letter R for the right and the letter L for the left teeth.

These two lines divide the mouth into four quarters which we term the lower right quarter, the lower left quarter, the

upper left quarter and the upper right quarter.

Each quarter develops the same number of teeth, and the same named teeth. Thus, when you have learned the names of the teeth in one quarter and how, when and where they arrive, you know about the teeth in the remaining quarters.

The dental time table of the first set of teeth is as follows: The four central incisors which we number 1, erupt when the child is about six months of age. A few months later the four lateral incisors erupt. These we number 2. At about one year of age four first molars which we number 4, erupt in this space. Six months later four cuspids erupt which we number 3. Finally, six months later, four second molars erupt to complete the baby set. These we number 5.



gum out of the normal position, making it red, swollen and sore. Such cases should be referred promptly to the dentist for treatment. In the majority of cases he will give the suffering child immediate relief. It is a great mistake to let a child suffer from teething. It is positively unnecessary.

"Should the baby teeth be cleaned?" Our answer is another question, "Why should the young mouth have any less care than the face or the hands? The mouth is the doorway to the stomach. Through it passes all nourishment. An unclean mouth in childhood weakens the nourishment.

"Why should deciduous teeth be filled?" "A dental stitch in time saves nine." Decay in the child mouth is no less destructive than in the adult mouth. Hours of pain may be saved the child if the teeth are kept free of open cavities.

Toothache in childhood is not a necessary evil. The deciduous teeth should be filled that they may last their allotted time, that they may not be lost prematurely.

"What is the relation of the temporary to the permanent teeth?" The permanent teeth grow in the jaw directly beneath the temporary teeth. They absorb the roots of the baby teeth. If these roots be diseased, the new teeth may not be healthy.

If the permanent teeth erupt into a clean, healthy mouth, free of dirt and decay, they will remain sound and strong. Decayed baby teeth cause permanent teeth to decay.

"How can the temporary teeth cause irregular permanent teeth?" What happens when trains run too close to each other? Yes, there is a wreck. When baby teeth remain in the mouth too long and stand in the way of new teeth there is a dental wreck. The new teeth grow out of the correct line; they become irregular. When temporary teeth are lost prematurely, other teeth move into spaces where they do not belong. This also causes irregular teeth.

Every child, at three years of age, should be placed in the care of a dentist. There is little danger of tooth troubles when the temporary teeth are kept in a hygienic condition. Only a dentist can do this.

We now come to a consideration of the time table of the permanent teeth.

At six years of age the four first molars erupt which we number 6. These teeth are the sixth from the median line of the face, erupt at six years of age, and are named the six-year molars. The lesson that follows entitled: "The Black Sheep of the Dental Flock," teaches you more about these four molars. It is enough at this time to call your attention to the fact that temporary teeth are not displaced to make room for these molars.

Following closely upon the six-year molars the four central incisors displace the No. 1 temporary teeth and the four

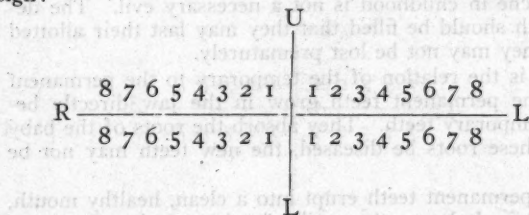
lateral incisors displace the No. 2 teeth. These eight teeth articulate with each other like the blades of scissors; hence they are termed incisor teeth.

About ten years of age four first bicuspidis displace No. 4 teeth and soon after four second bicuspidis push No. 5 teeth out of the jaw. These are called bicuspidis because the crowns present two cusps or points.

At twelve years of age two lower cuspidis displace the lower No. 3 teeth; four twelve-year molars erupt in spaces No. 7 and two upper cuspidis displace the upper No. 3 teeth.

To complete the permanent set, four wisdom teeth erupt from eighteen to forty-five years of age. These we number 8.

The erupting of the permanent teeth gives the following design:



(Use white chalk for numbers of permanent teeth. Review names of permanent teeth until the children are familiar with them. Master one quarter at a time.)

We now have eight permanent teeth in each quarter, thirty-two permanent teeth; together with the twenty temporary teeth we have fifty-two teeth erupting into a normal mouth. This can be remembered by the number of weeks in a year.

I told you in the beginning of the lesson that teeth, like trains, are constructed according to the work expected of them. The light, local train which runs between the city and suburban points is made up of but a few day coaches. The Overland Limited which crosses the continent, is composed of parlor, dining and sleeping cars. There are porters, and waiters eager to cater to your every wish.

And so it is with your teeth. They are not jumbled into the mouth to care for themselves. A well-fixed plan governs their construction and arrangement. The eight incisor teeth are shaped with cutting edges, the four above overlapping the four below. This definite shape and arrangement enables us to bite our food. Examine your front teeth and you will understand that the incisor teeth are intended to cut off the food; not to chew it.

The eight bicuspidis and twelve molars, with broad, cusped, chewing surfaces, grind upon each other after the manner in which mill stones grind flour. These broad sur-

faces can be felt with the tongue. As these bicuspid and molar teeth are strong and grind firmly upon each other so can you masticate your food.

But some people say, "I don't care if I lose my back teeth, just as long as I have my front ones. No one sees the back teeth."

This is a grave error. Teeth, primarily, were given to us, not to be seen by others, but to be used by ourselves for the support of the body. Front teeth are constructed and arranged for light work, for biting the food. When they are forced to do both the biting and the chewing, they soon break down from overwork. Molar teeth are required to prepare the food properly for the stomach.

Others argue, "Yes, but my mother wore false teeth ever since she was a little girl, and she lived."

True, you can hobo across the continent* in a freight car, but the journey would be far more delightful if made in a Pullman. You can travel through life without natural teeth, but the journey will be more delightful if made with the thirty-two teeth given to us by the Creator.

Then, too, the above argument is an exception. It does not prove the rule. In the great majority of cases, persons lose weight immediately upon the extraction of their teeth. It is a physiological law that when the stomach is no longer given food properly masticated and sufficiently mixed with saliva, the entire body becomes under-nourished. Healthy, robust bodies are never built with inferior nourishment. Superior nourishment demands superior teeth.

Occasionally we hear folks contend, "I don't want the dentist to tell me how to care for my teeth. I will do as I please about them, they can take care of themselves."

Suppose such a natured conductor would say, "I don't want the train dispatcher to give me orders. Let the train run where it will. If the passengers don't like it they can get off the train," what would happen? There would soon be a disastrous wreck.

When teeth are left to run their own free course without due regard for other parts of the body, when the mouth is not regularly cleaned, when the teeth are not cared for by a dentist, and when the orders of the dentist are not obeyed, soon there comes a dental wreck, a disaster which undermines the health and shortens the life.

It takes little to cause a dental wreck. One sore tooth can throw the entire mouth out of service just as a railroad wreck can tie up a railroad. A few missing spikes can cause the rails to spread and plunge a train-load of lives down the embankment into eternity. A careless trainman failing to close a switch caused the horrible death of thirty-five passengers.

A midnight siege of toothache will convince you that this truth is not overstated. Teeth must regard other parts of the body. It is a duty to keep the teeth at all times in a healthy condition. There is no excuse in these enlightened days to so neglect the teeth that they can wreck the health. It would be an extremely selfish conductor who demanded protection from others and who gave none himself.

There is one big question which we present in closing. It is, how will *you* travel through life—on a dental freight or with a dental Pullman? Will you be satisfied to travel with decayed teeth which cause pain and undermine health, with dirty, ugly teeth which indicate a slovenly individual or will you place your mouth in the care of a dentist, follow his directions, and strive to present at all times a beautiful set of teeth?

Each and every one must answer that question. You cannot escape it. No one can answer it for you. It is a personal question.

Decide it now. Every moment of delay drags you backward in your dental life. Your teeth erupt clean and free of cavities. They are seldom late in arriving. You start with good teeth. Strive to preserve them in as sound a condition throughout life. Determine that no one shall ever point their finger at you and say, "*There is a young person traveling on a dental freight.*"

REMARKS.

If time permits, review the names of the permanent teeth at the close of the lesson. Ask the children, one by one, to give the names indicated by the numbers. Since the child has more to do with the permanent than with the temporary teeth the latter need not be reviewed. In order that the name of permanent teeth may remain fresh in the mind of the child, have the regular teacher review this lesson at frequent intervals. Remember, children forget quickly.

Many lessons may be taught with the dental train. Every time it is presented new ideas appear. It may well be used to convey any special lessons deemed necessary for particular conditions. Each community has its own peculiar problems. The lesson relating to the development and eruption of the teeth, however, should be most emphasized.

The question of presenting, at the close of each lesson, a personal appeal for the conversion of dental sinners, must be decided by the conditions existing. Where children lack home training, especially concerning the caring for their teeth, it is perfectly proper to use every legitimate means at hand to awaken within them a burning desire to save their teeth. In better communities, where the children are blessed with motherly solicitude, the personal appeal should not be made. To such children teach the simple science of dentistry.

Tagore, the Indian poet, and the winner of the Nobel Prize, preaches, "Consider eternity." Teach oral hygiene not alone for today. Be not satisfied with superficial work. Look into the years beyond. Start the dental train, and every lesson you teach, with such an impetus that as the years rush by, your influence may gain momentum and roll into eternity, blessing all along the way.

RESPONSIBILITIES OF THE MEDICAL PROFESSION IN THIS WAR

MAJ. VICTOR C. VAUGHAN, M.D.

WE have become participants in the most destructive war the world has ever known. This conflict is more than a war—it is the cataclysm in the history of man, comparable in the wide extent and thoroughness of its destructive effects to the great ice age with its glacial movements.

Within the past three years there has been a lapse into barbarism on the part of the central empires of Europe which has shocked the whole world and endangers the foundations of civilization. Some of the greatest architectural monuments conceived by the brain and executed by the hand of man have been ruthlessly destroyed. Cities, villages and hamlets, unarmed and unfortified, have been bombed with apparently the sole object of striking terror to the hearts of peaceful inhabitants. Hundreds and thousands of noncombatant citizens of Belgium have been placed in servitude. Ships carrying women and children on errands of duty and pleasure, have been sunk. Hospitals, beneath the flag of the international Red Cross, have been chosen and marked for destruction. Solemn treaties have been torn to pieces as mere scraps of paper, and neutral countries have been violated without hesitation. Poisonous gases, forbidden by the agreement of nations, have been sent out to deal death. In short, every barbarity conceivable in the trained mind and made available by the science of our enemy has been brought to bear to secure for him the domination of the earth and its subjugation to his imperious rule.

With many other nations, we have entered this conflict against the modern savage who has made science his most effective weapon of destruction, and who claims God as his chief aid and protector. This struggle is to be continued to the bitter end. We hesitated long before we entered it—to have waited longer would have placed a stain upon our honor which all time could not wash away. Our property to the last dollar and our lives to the last man, if need be, are to be given freely to the cause.

Our chief enemy is Germany, where so many of us went in former years to continue our medical studies. Because of this, those who instructed us in that country assumed that they were to have our sympathy and support when the war began. Evidently our German teachers, many of whom personally we revere and love, misunderstood us. No class of men in this country understand the German mind and its attitude towards science and truth better than those of us who studied at German universities and humbly sat at the feet of their learned, but arrogant professors. In their lectures and demonstrations

they revealed themselves to us as they could have done in no other way. While we saw in the German professor much to applaud and admire, we were not blind to the defects which he so openly, but for the most part unconsciously, displayed, nor deaf to the many boastful claims for German science which he made without due regard for historical truth.

I heard a most eminent German professor, in a review of the development of abdominal surgery, state that Billroth was the first to do an ovariectomy. As I listened I thought of the shades of Ephraim McDowell and of his many successors in this country, and England, and wondered whether this statement to which I was listening, and which was being made so authoritatively, was due to ignorance or arrogance. The more charitable view was the former. However, my mind was mostly occupied with pity for my German co-auditors, who evidently were giving full credence to this and other equally unfounded statements. A course of lectures on the development of our knowledge of gastric digestion failed to mention the names of our Beaumont and Dunglison. These are samples of the pabulum upon which we were fed in German universities; and the fact that American men of science were not visibly nauseated was taken by the German hosts as proof that the food was relished by the silent and patient consumer.

We have heard and read German misinterpretations of the great works of Darwin, and we have frequently had occasion to observe the omissions of the names of Pasteur and other great Frenchmen. American students of science flocked to German universities, but in the mass they were not idiots, nor were they blind and deaf, and now, for the most part, they understand the German mind and are not greatly surprised at the brutally selfish manifestation it has displayed since the war began.

You will please pardon this digression, but it seemed to me especially appropriate in view of the fact that so many of us have been students in Germany.

I am here to speak of the part which our profession, collectively and individually, must take in the great task which lies before us. Naturally, war is abhorrent to both the spirit and practice of medicine, whose purpose is preservation and not destruction. Physicians are trained in the conservation of life from its earliest beginning until at last it is compelled to yield to inevitable death. Medicine is an agent of succor and not of injury; it is the bearer of hope, strength and life; it feeds and does not poison.

The importance of medicine in war has been amply demonstrated in the past three years. Without modern sanitation, infection would have long since supplanted warfare in its destructive effects; but preventive medicine has demonstrated its effectiveness in all the great armies in Europe, both those

of our allies and our enemies. The only signal victories so far have been those of medicine, both preventive and curative. Our old foes, the infections, which in past wars usually proved more destructive than missiles and frequently decided the fate of nations, have been halted and forbidden admission to military camps. More than eighty per cent of the injured have been returned to the fighting line. It has been stated that the Germans justify their attacks on hospitals, forbidden by the agreement of all the nations involved, on the ground that they were striking at an effective agent of their enemies. Medical men have been able to neutralize poisonous gases; the complicated conditions of trench warfare have been met, and from the front constantly comes the news that the health of the troops is better than that among the civilian population at home.

The duties of medical men in this war are plain. There are those which fall upon us as citizens and which are common to all, and there are special obligations which come to us on account of our profession. The common duty of every citizen in this crisis is to devote himself whole-heartedly and without reserve to the defense of his country, to give of his property, his knowledge and even his life—if it be necessary. The result of this war will have a large share in shaping the future of our children and their children through many generations. The man who is not willing to sacrifice his own comfort for the good of his offspring is grossly lacking in the spirit of highest manhood. The individual who places his interests before those of the race estimates his own importance too highly, and fails to correctly appreciate the relation between the individual and the nation. The whole includes every part, and the relative values of part and the whole differ more widely as the size and the function of the part diminish.

I come now to speak of the special obligations resting upon us as medical men. Of first importance, we must see to it that our soldiers have the best possible medical service. Our medical corps must consist of the most skilful, intelligent and competent men in the profession, and this must be true in every branch of the service. The soldier is in the hands of the physician from the time of recruitment until discharge.

I often hear men of the Medical Reserve Corps expressing very positively the desire that they should not be put at such work as the examination of recruits. This is a mistake, and the examination of recruits should be regarded as no perfunctory procedure. The unfit volunteer with his best foot foremost, and the unwilling conscript with his desire to shun service, should both be detected and each properly disposed of. The Surgeon General is providing for the most thorough and scientific examination to which enlisted men are subjected, both prospective officers and men in the line are being ex-

amined by experts in the detection of tuberculosis, cardiovascular, venereal and mental diseases.

In short, the government has placed the selection of its soldiers and, to a large extent, of its officers, in the hands of the medical profession and depends upon medical men to say who shall serve in arms and who shall be exempted from active duty. The extent of professional responsibility involved in this work is fundamental, and the Surgeon General, recognizing this, has called to his aid a large staff selected from the most eminent specialists in the country and the response has been both willing and unanimous. It is not an over-estimate to state that of the thousand eminent specialists in this country under forty-five years of age, more than fifty per cent have already accepted commissions in the Medical Officers' Corps, and others are ready to do so when needed.

On every local draft board there is a medical man, and ours is the only profession which has been entrusted with so heavy a responsibility. I am glad to say that, with a few exceptions, this responsibility has been worthily borne. The President of the United States, recognizing the importance of the medical profession in the conduct of the war and to the civilian population, has made a wise provision whereby our students may continue their studies in order that they may be better fitted to serve the country. No drafted medical student has been exempted from the obligation to serve, but every one has been placed in the Medical Enlisted Reserve Corps and told to fit himself for the most efficient service. This is another honor which has been conferred upon our profession, and our students and teachers must see that they prove worthy of the trust thus imposed on them and that our medical schools do not become houses of refuge for slackers, but develop into efficient training camps for patriots. By authority of the government, medical faculties may assign to the line such of their students as fail to demonstrate their possession of the intelligence, industry and integrity essential to admission to the profession.

The selection of medical men has been left to the profession itself, and this function is being exercised by the Surgeon General with the greatest possible wisdom and care. Governors of states, members of Congress and others in high authority, recognizing that this should be left to the profession, are slow to interfere and are not insistent even when they feel that personal appeal cannot be wholly ignored. The importance of this task may be appreciated when we recall that in an army of 3,000,000 men, which we will probably have to develop within the next year, there will be 21,000 medical officers, 20,500 of whom must come from those new to military service. In the bestowal of rank, mistakes are undoubtedly made and some of these cut personal pride deeply, but it

should be recognized—as the weekly reports of our national journal show—that but few majorities are being given and that these are being held for those who show their worthiness after entering the service. It is the purpose of the Surgeon General to utilize the medical equipment of every division, so far as possible, as a graduate medical school, and honors will be open to all alike.

I am fully aware of the feeling which you have in going into the military service from civil life and in coming in contact with the medical officers of the regular army. You feel that you are not quite at home, and that possibly you are regarded as intruders. I am sure that this is not due to the regular medical officers. More or less intimate association with these men for twenty years past has convinced me that there is not in our profession any finer body of men. The medical officer new to military service may feel that he is not concerned with the special administrative work required in his new life. This is because he is largely ignorant of the facts.

The relation between physician and patient in military service is quite different from that which exists in civil life. In the former the patient does not select his medical attendant, nor can the physician refuse to administer to the patient, however disagreeable personally such attendance may be. In civil life, both are free agents and the relationship of patient and medical attendant may be broken by either at any time. In military service neither is a free agent but both are servants of the government. In civil life, the patient may or may not follow the advice of the physician; in the army the medical officer commands. His authority is greater but this means increased responsibility. In civil life, the man who pretends to be ill, the malingerer, amuses his medical attendant. In the military service he is a source of the greatest worry and imposes upon the medical officer the gravest responsibility. In civil life the physician's records are, for the most part at least, for his own use. In military life they are principally concerned with the relation between the patient and the government. In civil practice as a rule, it makes but little difference whether the patient returns to his work in two days or two months. In the army prompt and quick return to duty may be of the most decisive importance. In civil life, the individual medical man chooses his line of work and becomes a specialist, referring cases with which he does not wish to deal, to some colleague. Naturally the medical officer will be assigned to that duty for which he is best fitted, but in an emergency he must do as best he can what lies before him. When a great battle has been fought, and the injured are coming in by the hundreds and possibly by the thousands, and well-trained surgeons are few, the internes and even the ophthalmologist or

other specialist, must become for the time being general surgeons and do the best they can.

In civil practice, the physician who is neglectful or incompetent is soon recognized as such by his intelligent patient and another medical attendant is summoned; while, in the army, the patient has no such privilege and must accept the services provided possibly to his own detriment and to that of the government. It follows from this that the neglectful or incompetent physician has no place in military service.

In private practice, the surgical and other instruments used are the doctor's private property; in the army they belong to the government, and the man new to the service is likely to find this out greatly to his own cost. Exact reports must be kept, in order that in the future no injustice is done the soldier and no imposition placed upon the government. The administration and paper work of the military medical service is not "red tape" as the civilian physician often believes, but a necessary part of the work, and it has been developed after many years of experience.

The officer in the Reserve Corps must look to the man in the regular army for instructions. One of the most important things done by the Surgeon General is the establishment of training camps for medical officers, and those who have attended these schools of instruction have learned much which will be not only of great value, but of absolute necessity in their future work. The unfortunate thing is that there are so few regular officers of long experience that the number of qualified instructors has been too small. However, as I look into your faces, I recognize that the scarcity of instructors is more than offset by the intelligence and enthusiasm of the pupils.

Having placed upon the medical profession the honor and the responsibility of selecting its soldiers and the medical officers to care for them, the government has provided the means necessary for this care. The soldiers having been assembled, the most important function of the medical officer is to keep them in good health. Every medical officer, whatever his special function, should be a sanitarian. Infection must be kept out of the camps so far as possible, and provision for doing this is not being neglected. The national public health service and state local boards of health have been asked to co-operate with medical officers in this matter. These authorities are responding to this patriotic duty and are fully convinced that, without their co-operation and constant vigilance, infections cannot be kept at a low figure in the camps.

In conclusion, I wish to address a few words to you personally. You have taken up the duties of the hour, and in so doing have made great personal sacrifices. There is not one among you who would not have preferred to remain at

home with your families and patients. You have made heavy financial sacrifices. I am sure that the average income of those now before me greatly exceeds the financial recompense allowed by the government, even if every one of you could have the highest rank provided.

Some of you have been in the profession for many years and had begun to feel that you could take life a little easier and allow your younger colleagues to do the night practice and attend the more distant cases. Indeed, many of you have done the exacting work of a general practitioner for many years, had recently chosen a specialty in which you were just establishing a reputation when the country's call came to you. On the other hand, many among you have recently completed university and interne work at great cost in time and money; have purchased homes not yet fully paid for; have assumed the highest function of man—parenthood; have looked forward to years of happiness under your own roof and by your own fireside, with the dearest helpmate in all the world; have felt the joy of watching over the development of the immortal part of yourself in healthy and intelligent children.

Others, still have just left schools and hospitals in order to have their professional baptism 'midst scenes of war. To all great honor is due. Your country in distress has called for help and you have responded. Some of you, possibly all, are to cross the seas and to witness the horrors of the world's most brutal war. In carrying aid to others, some of you will lose your lives, will make the supreme sacrifice, but whatever fate may bring, you have done your duty—show yourselves worthy men.

The man whom I pity today is the man who is not doing his bit, and he is not a rare bird in this country; he may be found in every community and in every calling. He is not altogether unknown in our profession and he will win material benefit. He will fatten on the opportunities afforded by your absence. When you return, you will be content to live modestly on a side street; he will live in a mansion on the avenue. You will be happy if you can put an occasional deposit in the bank; he will be one of the directors. You will drive in a Ford; he will ride in a Packard. But his lot will not be an enviable one, for he will be compelled to spend a good part of his life in explaining why he did not do his bit. His little boy will look up from the history of the great war and will ask, "Papa, what did you do?" He will have the difficult task of explaining to his own child why he flourished materially while so many of his neighbors sacrificed.

—Military Surgeon.

JOURNEYS IN DIVERSE PLACES

AMBROISE PARÉ

The Journey to Flanders, 1569

Ambrose Paré was born in the village of Bourg-Hersent, near Laval, in Maine, France 1510. In Paré's time the armies of Europe were not regularly equipped with a medical service. The great nobles were accompanied by their private physicians; the common soldiers doctored themselves or used the services of the barbar surgeons or quacks who accompanied the army as adventurers. When Paré was a man of seventy, the Dean of the Faculty of Medicine in Paris made an attack on him on account of his use of the ligature instead of cauterizing after amputation. In answer Paré appealed to his successful experience and narrated "The Journeys in Diverse Places," of which this is an extract. In this volume, Paré's own achievements are recorded with modesty and satisfaction. "I dressed him, and God healed him", is the refrain. In this article is shown the poverty of everyday comforts of even the rich, the lack of antiseptic treatment of which they knew nothing. The shrewdness of Paré is demonstrated, in his handling of not only the patient, but in securing the co-operation of the previous medical advisers. Paré died in Paris, 1590.

M. LE DUC D' ASCOT did not fail to send a gentleman to the King, with a letter humbly asking if he would do him so much kindness and honor as to permit and command his chief surgeon to visit M. le Marquis d' Auret, his brother, who had received a gunshot wound near the knee, with fracture of the bone, about seven months ago, and the physicians and surgeons all this time had not been able to heal him. The King sent for me and bade me go and see M. d' Auret, and give him all the help I could, to heal him of his wound. I told him I would employ all the little knowledge it had pleased God to give me.

I went off, escorted by two gentlemen, to the Chateau d' Auret, which is a league and a half from Mons in Hainault, where M. le Marquis was lying. So soon as I had come, I visited him, and told him the King had commanded me to come and see him and dress his wound. He said he was very glad I had come, and was much beholden to the King, who had done him so much honor as to send me to him.

I found him in a high fever, his eyes deep sunken, with a moribund and yellowish face, his tongue dry and parched, and the whole body much wasted and lean, the voice low as of a man very near death; and I found his thigh much inflamed, suppurating, and ulcerated, discharging a greenish and very offensive sanies. I probed it with a silver probe, wherewith I found a large cavity in the middle of the thigh, and others round the knee, sanious and cuniculate; also several scales of bone, some loose, others not. The leg was greatly swelled, and imbued with a pituitous humor and bent and drawn back. There was a large bed sore; he could rest neither day nor night; and had no appetite to eat, but very thirsty. I was told he often fell into a faintness of the heart, and sometimes as in epilepsy; and often he felt sick, with such trembling he could not carry his hands to his mouth. Seeing and considering all these great complications, and the vital powers thus broken down, truly I was very sorry I had come to him, because it

seemed to me there was little hope that he would escape death. All the same, to give him courage and good hope I told him I would soon set him on his legs, by the grace of God, and the help of his physicians and surgeons.

Having seen him, I went for a walk in a garden, and prayed God He would show me this grace, that he should recover; and that He would bless our hands and our medicaments, to fight such a complication of diseases. I discussed in my mind the means I must take to do this. They called me to dinner. I came into the kitchen, and there I saw, taken out of a great pot, half a sheep, a quarter of veal, three great pieces of beef, two fowls, and a very big piece of bacon, with abundance of good herbs; then I said to myself that the broth of the pot would be full of juices, and very nourishing.

After dinner, we began our consultation, all the physicians and surgeons together, in the presence of M. le Due d'Ascot and some gentlemen who were with him. I began to say to the surgeons that I was astonished they had not made incisions in M. le Marquis' thigh, seeing that it was all suppurating, and the thick matter in it very foetid and offensive, showing it had long been pent up there; and that I had found with the probe caries of the bone, and scales of bone, which were already loose. They answered me: "Never would he consent to it"; indeed, it was near two months since they had been able to get leave to put clean sheets on his bed; and one scarce dared touch the coverlet, so great was his pain. Then I said, "To heal him, we must touch something else than the coverlet of his bed." Each said what he thought of the malady of the patient, and in conclusion they all held it hopeless. I told them there was still some hope, because he was young, and God and nature sometimes do things which seem to physicians and surgeons impossible.

To restore the warmth and nourishment of the body, general frictions must be made with hot cloths above, below, to right, to left, and around, to draw the blood and the vital spirits from within outward. For the bed sore, he must be put in a fresh, soft bed, with clean shirt and sheets. Having discoursed of the causes and complications of his malady, I said we must cure them by their contraries; and must first ease the pain, making openings in the thigh to let out the matter. Secondly, having regard to the great swelling and coldness of the limb, we must apply hot bricks round it, and sprinkle them with a decoction of nerval herbs in wine and vinegar, and wrap them in napkins; and to his feet, an earthenware bottle filled with the decoction, corked, and wrapped in cloths. Then the thigh, and the whole of the leg, must be fomented with a decoction made of sage, rosemary, thyme, lavender, flowers of chamomile and melilot, red roses boiled in white wine, with a drying powder made of oak-ashes and a

little vinegar and half a handful of salt. Thirdly, we must apply to the bed sore a large plaster made of the desiccative red ointment and of *Unguentum Comitissae*, equal parts, mixed together, to ease his pain and dry the ulcer; and he must have a little pillow of down, to keep all pressure off it. And for the strengthening of his heart, we must apply over it a refrigerant of oil of water-lilies, ointment of roses, and a little saffron, dissolved in rose-vinegar and treacle, spread on a piece of red cloth. For the syncope, from exhaustion of the natural forces, troubling the brain, he must have good nourishment full of juices, as raw eggs, plums stewed in wine and sugar, broth of the meat of the great pot, whereof I have already spoken; the white meat of fowls, partridges' wings minced small, and other roast meats easy to digest, as veal, kid, pigeons, partridges, thrushes, and the like, with sauce of orange, ver juice, sorrel, sharp pomegranates; or he may have them boiled with good herbs, as lettuce, purslain, chicory, bugloss, marigold, and the like. At night he can take barley-water, with juice of sorrel and of water-lilies, of each two ounces, with four or five grains of opium, and the four cold seeds crushed, of each half an ounce; which is a good nourishing remedy and will make him sleep. His bread to be farmhouse bread, neither too stale nor too fresh. For the great pain in his head, his hair must be cut, and his head rubbed with rose-vinegar just warm, and a double cloth steeped in it and put there; also a forehead-cloth, of oil of roses and water-lilies and poppies, and a little opium and rose-vinegar, with a little camphor, and changed from time to time. Moreover, we must allow him to smell flowers of henbane and water-lilies, bruised with vinegar and rose-water, with a little camphor, all wrapped in a handkerchief, to be held some time to his nose. And we must make artificial-rain, pouring water from some high place into a cauldron, that he may hear the sound of it; by which means sleep shall be provoked on him. As for the contraction of his leg, there is hope of righting it when we have let out the pus and other humors pent up in the thigh, and have rubbed the whole knee with ointment of mallows, and oil of lilies, and a little *eau-de-vie*, and wrapped it in black wool with the grease left in it; and if we put under the knee a feather pillow doubled, little by little we shall straighten the leg.

This my discourse was well approved by the physicians and surgeons.

The consultation ended, we went back to the patient, and I made three openings in his thigh. Two or three hours later, I got a bed made near his old one, with fair white sheets on it; then a strong man put him in it, and he was thankful to be taken out of his foul, stinking bed. Soon after, he asked to sleep, which he did for near four hours, and everybody in the

house began to feel happy, and especially M. le Duc d' Ascot, his brother.

The following days, I made injections, into the depth and cavities of the ulcers, of Aegyptiacum dissolved sometimes in *eau-de-vie*, other times in wine. I applied compresses to the bottom of the sinuous tracks, to cleanse and dry the soft spongy flesh, and hollow leaden tents, that the sanies might always have a way out; and above them a large plaster of Diacalctheos dissolved in wine. And I bandaged him so skilfully that he had no pain; and when the pain was gone, the fever began at once to abate. Then I gave him wine to drink moderately tempered with water, knowing it would restore and quicken the vital forces. And all that we agreed in consultation was done in due time and order; and as soon as his pains and fever ceased, he began steadily to amend. He dismissed two of his surgeons, and one of his physicians, so that we were but three with him.

Now I stopped there about two months, not without seeing many patients, both rich and poor, who came to me from three or four leagues round. He gave food and drink to the needy, and commended them all to me, asking me to help them for his sake. I protest I refused not one, and did for them all I could, to his great pleasure. Then, when I saw him beginning to be well, I told him we must have viols and violins, and a buffoon to make him laugh, which he did. In one month we got him into a chair, and he had himself carried about in his garden and at the door of his chateau, to see everybody passing by.

The villagers of two or three leagues round, now they could have sight of him, came on holidays to sing and dance, men and women, pell-mell for a frolic, rejoiced at his good convalescence, all glad to see him, not without plenty of laughter and plenty to drink. He always gave them a hogshhead of beer; and they all drank merrily to his health. And the citizens of Mons in Hainault, and other gentlemen, his neighbors, came to see him for the wonder of it, as a man come out of the grave; and from the time he was well, he was never without company.

When one went out, another came in to visit him; his table was always well covered. He was dearly loved both by the nobility and by the common people; as for his generosity, so for his handsome face and his courtesy; with a kind look and a gracious word for everybody, so that all who saw him had perforce to love him.

The chief citizens of Mons came on Saturday, to beg him let me go to Mons, where they wished to entertain me with a banquet, for their love of him. He told them he would urge me to go, which he did; but I said such great honor was not for me, moreover they could not feast me better than he did.

Again he urged me, with much affection, to go there, to please him, and I agreed. The next day they came to fetch me with two carriages, and when we got to Mons, we found the dinner ready, and the chief men of the town, with their ladies, who attended me with great devotion. We sat down to dinner, and they put me at the top of the table, and all drank to me, and to the health of M. le Marquis d' Aurret, saying he was happy, and they with him, to have had me to put him on his legs again; and truly the whole company were full of honor and love for him. After dinner, they brought me back to the Chateau d'Aurret, where M. le Marquis was awaiting me, who affectionately welcomed me, and would hear what we had done at our banquet; and I told him all the company had drunk many times to his health.

In six weeks he began to stand a little on crutches, and to put on fat and get a good natural color. He would go to Beaumont, his brother's place, and was taken there in a carrying-chair, by eight men at a time. And the peasants in the villages through which we passed, knowing it was M. le Marquis, fought who should carry him, and would have us drink with them; but it was only beer. Yet I believe if they had possessed wine, even hippocras, they would have given it to us with a will. And all were right glad to see him, and all prayed God for him.

When we came to Beaumont, everybody came out to meet us and pay their respects to him, and prayed God bless him and keep him in good health. We came to the chateau, and found there more than fifty gentlemen whom M. le Duc d' Ascot had invited to come and be happy with his brother; and he kept open house three whole days. After dinner, the gentlemen used to tilt at the ring and play with the foils, and were full of joy at the sight of M. d' Aurret, for they had heard he would never leave his bed or be healed of his wound. I was always at the upper end of the table, and everybody drank to him and to me, thinking to make me drunk, which they could not; for I drank only as I always do.

A few days later, we went back; and I took my leave of Mdme. la Duchesse d' Ascot, who drew a diamond from her finger, and gave it me in gratitude for my good care of her brother, and the diamond was worth more than fifty crowns. M. d' Aurret was ever getting better, and was walking all alone on crutches round his garden. Many times I asked him to let me go back to Paris, telling him his physician and his surgeon could do all that was now wanted for his wound, and to make a beginning to get away from him, I asked him to let me go and see the town of Antwerp. To this he agreed at once, and told his steward to escort me there, with two pages.

We passed through Malines and Brussels, where the chief citizens of the town begged us to let them know of it when

we returned; for they, too, wished, like those of Mons, to have a festival for me. I gave them very humble thanks, saying I did not deserve such honor. I was two days and a half seeing the town of Antwerp, where certain merchants, knowing the steward, prayed he would let them have the honor of giving us a dinner or a supper, it was who should have us, and they were all truly glad to hear how well M. d' Aurret was doing, and made more of me than I asked.

On my return, I found M. le Marquis enjoying himself, and five or six days later I asked his leave to go, which he gave, said he, with great regret. And he made me a handsome present of great value, and sent me back, with the steward, and two pages, to my house in Paris.

ARMY DENTISTRY

LIEUT. ALVIE R. LIVERMORE, Dental Surgeon, U. S. N. A.
Camp Zachary Taylor, K'y.

ARMY dentistry differs, in a great many ways, from dentistry as practiced in civilian life. The forcep is *not* the predominating instrument of the military dental surgeon, as many people, and even civilian "dentists," believe. In fact there is less extracting per patient done than in civilian life. This is due to the fact that there is less chance in the army of having lost teeth replaced by bridges or artificial dentures.

The army dental surgeon is allowed to do only the regulation work for the enlisted men, viz.: amalgam, cement and synthetic fillings, treatment of teeth and treatment of diseases of the tissues of the oral cavity, treatment of fractures or wounds of the mouth and extraction of teeth. Crown and bridge and plate work are not included and, therefore, more effort is made to "save" teeth by the proper insertion of permanent amalgam fillings.

The government has realized the necessity of good dental service for its soldiers and we now have, at this post, a dental clinic containing ten Harvard chairs, ten electric engines and ten fountain cuspidors. The materials furnished are the best on the market. The officers have also been made to realize the importance of dentistry to the health of the soldier and the men are always prompt with their appointments. I believe that more good is done, taking it as a whole, by the army dentists than by the civilian dentists. More teeth are saved and put in good sound condition. Although we are not limited to amalgam fillings that is the kind of work that the army dentist must do the majority of the time. A patient reports for treatment, and the dental surgeon places good amalgam fillings in all the teeth that it is possible to do so.

Therefore, you can readily see that the dentist in the army "saves" more teeth than the dentist in civil life.

One condition that has been brought to my attention is the presence of so much pyorrhea in the mouths of men between twenty and twenty-five years of age. Among men who are older the prevalence of this condition is not so surprising, but I say that I have never seen so many cases of it in men so young. In the treatment of pyorrhea the army dentist has the advantage. One of the most important factors in combating this disease is the co-operation of the patient, and unless you make the patient realize the danger present, this is usually hard to obtain. To be successful, as you know, the treatment must extend over quite a long period, with frequent visits to the dentist, massaging of the gums, use of antiseptic mouth washes, etc., by the patient. It is very hard to get the patient in civil life to carry out this strict routine of treatment, but in the army he "must" report for treatment as often as the dental surgeon deems necessary and must also carry out, himself, whatever treatment is prescribed for him. Therefore, we are meeting with more than average success in stopping the ravages of this disease. We do not wait for the men to come to us, but we go to them and educate them as to the value of hygiene of the mouth and of the necessity of having good sound teeth.

At this post the dental surgeons have given lectures to the men in their regiments, a company at a time. I have had dozens of men crowd around, asking questions, after one of these lectures. And it is very gratifying to see the interest they take, once they are acquainted with the value of oral hygiene. The dental surgeons make a bi-monthly inspection of the men in their regiments and I know of some regiments where the dentist offers a prize to the company whose mouths are found to be in the most hygienic condition. Think of the good that would be accomplished if the public in general could be informed the way these men are. After the lectures a thorough examination of the oral cavity of every man in the regiment is thereby obtained. The dental surgeon then sends for so many men each day and they must report for the treatment. In this office we have made it a rule that every patient will get a thorough prophylaxis of the oral cavity. The dental profession is rendering the greatest service that it is possible to render a nation in a crisis like this. The old saying, "An army fights on its stomach" is very true, but the stomach will not exercise its proper function unless the oral cavity is in a hygienic condition and the teeth in the condition necessary for proper mastication of food.

EDITORIAL

WM. W. BELCHER, D.D.S., Editor

186 ALEXANDER ST., ROCHESTER, N. Y.

Oral Hygiene does not publish Society Announcements, Obituaries, Personals, or Book Reviews.
This policy is made necessary by the limited size and wide circulation of the Magazine.

INDUSTRIAL ECONOMICS OF THE WAR

What the Coal Commission is trying to save ain't money, Abe. It's coal, and that is one of the points about this war that people ain't exactly realized yet. Money ain't what it once used to be before this war, Abe. You can still make it, lose it, spend it and save it, but you couldn't sweeten your coffee with it or heat your house with it 'till there's sugar and coal enough to go around.
Montague Glass.

THE country's business today is war and every proposition should be measured by the standard of its necessities. The majority of us have done little thus far. The awful seriousness of the war has not seared itself into our souls. The scarcity of sugar was the first experience that brought home to most of us a realization of the fact that this country is waging a colossal war and every resource is needed to bring it to a successful finish; and successful it must be or forever after we must hang our heads in shame.

It is hard for Americans to grasp what is coming. We want to continue manufacturing, transporting and selling fancy watches, furniture and glassware—we do not see why anyone should interfere. But they will. Far more rigid and arbitrary interference than the average person can now imagine.

We must speed up important industries. Unless we expect this war to last for a decade, there must be no "Business as Usual." Coal must be used for the most needed industries. We cannot afford to use fuel for greenhouses, the manufacture of artificial ice or useless lights, and deprive munition plants, public schools, and ships of needed fuel.

In England, the government decides what industries are allowed to continue, how many men they shall employ. Business is one of defense and the government exercises authority over plants and over men.

The same condition exists in France. To illustrate: The largest jewelry manufacturing plant in France is today making speedometers and other high-grade instruments for aeroplanes. It is not manufacturing a dollar's worth of jewelry.

The government requirements for the coming year, which must be supplied by the manufacturing industries of the U. S., total \$19,000,000,000. The total production of all manufacturing industries for 1916 was \$24,000,000,000.

With a million and a half workers withdrawn from industry, even with our utmost efforts, it is not likely that we can speed up to more than \$30,000,000,000. This means that more than one-half of our manufacturing resources must be devoted to the needs of war. The readjustment will be gradual but it is safe to say that before we are finished with the Hun, unless the unexpected happens, the total devoted to our war needs will be even a larger one.

We append a list of English industries and interests that are not allowed to employ additional male labor between the ages of eighteen and sixty-one, except by special permission.

METALS—Carriage building for private purposes; enamelled iron advertisements; furnishing ironmongery, including bedsteads and parts; gas and electric light fittings; metal articles for garden use other than tools necessary for food production; safes and steel office furniture; sheet metal domestic utensils; sheet metal japanning, lacquering and decorating; steam or hot water heating apparatus for domestic or horticultural use; machinery for trades scheduled on this list.

WOODWORK—French polishing; furniture, cabinet making and upholstery; garden seats, summer houses and horticultural buildings; picture and show card frames; show cases; shop fronts and fittings; venetian blinds; wood-carving, wood moulding.

STONE AND SLATE—Enameled slate; stone, marble, granite and slate quarrying, cutting and polishing.

POTTERY, BRICKS, GLASS—Bottles for alcoholics and aerated waters; bricks (other than firebricks) and tiles; glass beveling, embossing and silvering; glass staining and stained glass fitting; china and earthenware; table and decorative glass.

HOUSE BUILDING—Building including horticultural houses; house painting and decorating.

PAPER AND PRINTING—Bookbinding, letterpress and lithographic printing; paper-making.

TEXTILE, ETC.—Carpets, floor rugs, furniture hangings, upholstery materials, linoleum, oilcloth and table baize.

CLOTHING, ETC.—Dress, mantle and blouse making; furs, preparing and making up; millinery; patent leather and fancy boots, shoes and slippers; tailoring; umbrellas and parasols, and parts.

FOOD, DRINK, TOBACCO—Aerated waters; beer, wines and spirits; biscuits; cakes and confectionery; sugar and chocolate; cigars, manufacture of.

MISCELLANEOUS—Brushes; church organ building; clock making; electro-plating; fancy leather articles; games and sports apparatus; goldsmiths' and silversmiths' wares and jewelry; musical instruments; photographic apparatus and materials; sporting guns and ammunition; trunks and portmanteaus.

COMMERCIAL OCCUPATIONS—Distribution and sale of products of all foregoing trades.

Other trades: Advertising agents, commercial travelers and canvassers, commission agents, hawkers, peddlers, shop assistants, clerks, except those with technical knowledge of a high order, or acting in a managerial or administrative capacity.

MISCELLANEOUS OCCUPATIONS—Flowers and ornamental shrubs and plants; domestic servants, including waiters and servants in clubs, hotels, lodging-houses, restaurants and cafes, employees at theatres, music halls, cinemas, and other places of amusement.

It is not probable that we will be called upon to face such a formidable list as this nor does it mean that we are to encounter a nation-wide business depression. There will be more manufacturing and more money in circulation than ever before in our history. Indeed, we face the possibility that there will be too generous spending and not enough saving for investment in Liberty Bonds and the sinews of war. Sacrifices must be made in the industrial field as on the field of battle.

It is up to every member of the dental profession to economize in food, fuel and unnecessary expenditures. Many mistakes have undoubtedly been made in our haste of war preparations, due to the immense problems presented to a peaceful people totally unprepared for warfare but thank God we are not making the same mistakes twice.

Americans have every reason to feel that costly though some of these mistakes have been, those who have been directing the destinies of the nation have done well and deserve our undivided support.

THE following from the Fresno (Calif.) *Republican*, issue of January 6, 1918, is an interesting item:

That the conservation of human beings is the greatest of all war needs, was declared by Dr. Guy S. Millberry, dean of the dental department of the University of California, who delivered an intensively instructive and interesting lecture on Dental Hygiene to 100 or more dentists and as many laymen, who gathered last evening at the banquet room of the Hotel Fresno.

"By preventive dentistry," he said, "can the widest scope of conservation of human problems be attained." He said that dental problems which are of the type which can be handled by prevention, center around the children of the public schools, and he strongly pointed out the need for a more widespread adoption of dental inspection in the schools and dental clinics as an accompaniment thereto. He traced the movement from its point of conception on this country in Rochester, New York, where a mammoth dental infirmary is endowed and maintained, through the establishment of infirmaries in many places and the work that is being done. He pointed out many instances in which infection had been spread through mouth conditions and showed where dental inspection had many times uncovered conditions which have led to serious systemic diseases. Dr. Millberry's talk was in line with discussions which were taken up at an aftermath meeting of the executive boards of the northern and southern sections of the California State Dental Association during the afternoon yesterday. The boards of the two sections of the state took up educational matters, legislative matters and discussed some phases of the program for the state meeting to be held the coming summer. The conference recommended that the subject of legalizing the practice of dental hygiene by a "dental hygienist" be referred to the various societies forming the state association, for the discussion and for a vote to come up at the state convention. The University of California has authorized the establishing of a course of one year for certain specially qualified students who would graduate as dental hygienists and be permitted to practice limited forms of dental surgery and give dental instructions in schools, etc.

NOTE AND COMMENT

*"If you make a better brace and bit, a better lightning rod,
If you make a better ash-cart or spade to turn the sod,
A mighty clever writer says the folks who want your goods,
Will somehow blaze a pathway to your workshop in the
woods."*

"Not doing more than the average is what keeps the average down."

THE world is divided into lifters and leaners. Ninety-five percent of us are leaners.

THE United States is now the largest producer of silver, 72,833,000 ounces. This is forty-two percent of the world's output.

WAR is now costing the nations of the world \$6,500,000 an hour, \$160,000,000 a day. Of this amount the United States is spending \$40,000,000 a day.

ONE of the Chicago Mail Order houses reports a business of \$178,268,233, an increase of nearly \$32,000,000 over 1916 and \$100,000,000 better than five years ago.

IN 1913 the entire German dye industry paid \$11,000,000 in dividends. The Ford Motor Car Company did a greater annual business and earned four times the combined dividends while paying three times the wages.

THE oldest flag that floats is the Stars and Stripes. Eight years older than that of Spain, seventeen years older than that of France and twenty-three years older than the British. The German flag was made in 1871.

WITH the high price and the scarcity of leather, many new substances are called upon to supply the deficiency. The hide of the shark is being successfully employed for this purpose and at a considerable saving.

DR. JAMES BEALL MORRISON, inventor of the Morrison dental chair, bracket and dental engine, died recently at Kansas City, Mo., at the age of eighty-eight. Unlike the average inventive genius, he had accumulated considerable wealth.

WE are in receipt of a booklet bearing the imprint of the Government Printing Office: "List of Staple Medical and Surgical Supplies." Seventy-eight pages is devoted to "Surgical Instruments," with illustrations. We hope to see a similar booklet devoted to the subject of Dental Instruments and Appliances.

DR. JOSEPH CLARK, a famous missionary, who has just returned to civilization after many years in the African jungle, describes an amusing encounter between a lady missionary and a powerful witch doctor—one of the banes of the pioneers of civilization. The missionary made the witch doctor the laughing-stock of the community by first making him publicly admit that persons cannot move their teeth, and then with a slight touch of her tongue on her upper plate, causing her false teeth visibly to descend!—*Dental Surgeon.*

EVERY \$1,000 saved in 1896 is now worth only \$363.

What \$1,000 could then buy now costs \$2,750.

The purchasing power of each dollar today is extremely low.

If you save your dollars now you will be able to buy far more with them by and by.

Moral: BUY A LIBERTY BOND!

BEFORE the advent of electricity every factory, mill and bake shop had to have its own power plant. One of the greatest conservers of human energy is the central electric power station. An army of workers has been liberated for other duties. The electric current is the original "self-commencer." It does not have to be transported to its field of labor. Connect a small copper wire to the source of power and it is on the job, ready and willing to work twenty-four hours a day.

THE United States has 450 makers of auto cars and trucks and twelve of these furnish eighty percent of the entire product. Our export of automobiles in 1914 was \$26,500,000, an amount less than that of our export of parts in the year just closed. During the year 1917 we exported trucks, cars and parts to the amount of \$117,000,000, and would have sent a much larger amount had shipping facilities been at hand.

THE gentle prune, grown and dried in California, long considered a fit subject of the vaudeville and journalistic joker, is to be lifted from its lonely place on the boarding house table and become the chosen food for our fighting men. The cheaper restaurants have up to this time, in spite of the H. C. L. served six fat, juicy, well-cooked prunes for a "k-nickle." But Uncle Sam has commandeered the best of the crop and the ordinary civilian must content himself with the weakened variety, mostly skin and stones and probably at an advanced price.

EVEN the common, ordinary spider is "doing his bit" and becoming a trained workman. Here is the proof:

"In a large English factory that produces surveying instruments, spiders are numbered among the most indispensable workmen. They spin the delicate thread used for the cross-hairs that mark the exact centre of the object lens in the surveyor's telescope. Spider web is the only suitable material yet discovered for these cross-hairs. Human hair is transparent and when magnified has the apparent dimensions of a rough-hewn lamp-post. The spiders produce during a two-months' spinning season thousands of yards of web, which is wound upon metal frames and stored away until needed. A spider "at work" dangles in the air by its invisible thread, the upper end of which is attached to a metal wire frame whirled in the hands of a girl. The girl first places the spider on her hand until the protruding end of the thread has become attached. When the spider attempts to leap to the ground she quickly attaches the thread to the centre of the whirling frame, and as the spider pays out its web she wraps it round the frame. At one time she removes from a spider several hundred feet of thread. The spiders are kept in a large room under the supervision of three girls and a forewoman. When the little workmen are not spinning they live in a large wooden cage. Flies are their chief article of diet. During the winter months the spider colony usually dies, and an entirely new corps of workmen must be recruited. The girls who have charge of the spiders are not in the least afraid of them. On the contrary, they regard them as pets."

"DIAMONDS are chunks of coal that stuck to their job."

THE severe winter weather insures a bountiful ice crop, and, undoubtedly, it will be needed. The making of artificial ice means consumption of coal and ammonia, both of which are important war needs. It is among the possibilities that the Government will soon forbid the making of artificial ice until after the war.

THE following appeal appeared in a recent issue of the *Boston Daily Transcript*:

The trustees of the Maverick Dispensary, 18 Chelsea street, East Boston, wish to appeal through your columns for the gift or loan of a dentist's chair.

In its work as a health centre, the dispensary finds its dental clinics indispensable, and last year 2,981 treatments were given in them. We have two dentists at work Saturdays, caring for the school children who cannot come on other days, but there is only one dental chair, and that so old-fashioned and difficult to adjust that it is not really serviceable. The high cost of these chairs—we find that second-hand ones run from \$50 to \$125—makes it impossible for the dispensary to buy one when its funds are barely sufficient for running expenses. Is there not some dentist entering the Army who would give or lend his chair for this purpose?

THE European manufacturers and dealers in dental supplies, as well as the American firms having European branch houses, are finding that warfare is an expensive luxury. In the case of Claudius Ash Sons Co., of England, the central powers have confiscated, sold out and appropriated the company's branch houses in Brussels, Berlin, Munich, Breslau, Frankfurt, Hamburg, Vienna, Budapest, Limberg, Bucharest and Constantinople, placing the proceeds in their respective Imperial treasuries. The loss to the company is estimated as over one million dollars.

THE *Western Dental Journal*, in its thirty-first volume, published by Hettinger Brothers Manufacturing Company, St. Louis, Mo., and edited by Dr. Charles Channing Allen, discontinued publication with the December, 1917, issue. The *Dental Summary* will advance its subscription price to \$1.50 and the *Dental Digest* has slightly reduced its page size to save white paper. The *Dental Review* has a pleasing new cover design. We dislike talking about ourselves, but it seems more and more as though everybody reads *Oral Hygiene*. Its monthly appearance is awaited with as much interest as a war bulletin. SOME JAZZ! I thank you.

It has been our privilege during these past few months to examine the teeth of several thousands of our soldiers from France. The mouths of our Tommy Atkins suffer very severely in comparison with those of our Colonial and Canadian troops. The teeth of the Canadians have nearly all been looked after, with gold fillings and caps and bridge work galore. The Australians' mouth as regards dental upkeep fall a good deal short of the Canadians' and the New Zealanders' a good way below the Australians'. Tommy Atkins' teeth are simply miles below the New Zealander's. We put things in this way for the sake of comparison. As a matter of fact, he is simply not in the running, taking things dentally. So much for dental education, or rather lack of same, in Great Britain. Take the first dozen Tommy Atkins you come across, we doubt, if any one of them know what the operation of "scaling" is. Ask any other soldier the same question, and note accordingly. The Britisher's knowledge of matters dental is lamentable and saddening. To him capping and bridge work belong to the realms unknown.—*Dental Surgeon*.

DR. CHARLES W. RODGERS, Chief of the Forsyth Dental Infirmary Free Public Health Lectures, announces the following program:

- Jan. 27. Harvey W. Wiley, M.D. The Teeth in War Time.
- Feb. 3. Thomas F. Harrington,
M.D., M.G.S. Common Diseases Caused by
Mouth Infections.
- Feb. 10. William E. Chenery,
M.D. The Bony Cavities of the Face and
Their Relation to the Teeth.
- Feb. 17. Frank A. Delabarre,
D.M.D. Irregular Teeth. A Message to
Parents.
- Feb. 24. Joseph W. Courtney,
M.D. (Subject to be announced.)
- April 28. Burton Lee Thorpe,
M.D., D.D.S. A Mouth Hygiene Message to the
Layman.

THE following from the *American Journal of Surgery* (Anesthesia Supplement) is of interest:

In a personal communication First Lieut. Arthur E. Guedel writes as follows:

"I am beginning to understand why ether in Europe has been so slow in displacing chloroform. The ether they are using here is rotten. It is not much better than our wash ether at home. It is difficult, indeed, to put a patient to sleep with it, to say nothing of securing a quiet state of anesthesia. From the coughing and great quantities of mucous secreted it would seem to contain more sulphuric acid and formalin than anything else. Also, it is about as volatile as alcohol. You never get any frosting on the mask. Usually a patient will walk right out from under anesthesia with this ether in spite of continuous administration, and a clean mask becomes soggy and useless after about ten minutes.

"Whether or not this is the usual European ether, I am not certain, but from many inquiries that I have made, I am led to believe that it is. They say over here that it requires a very skilful man to give ether, and take it from me it does. I have not been able to get by (with this foreign ether), and I have failed to see anyone else do it. (This verdict is supported by Dr. R. H. Ferguson, who on his European tours demonstrating the drop method of etherization always carried his own supply of American ether. It is also interesting to all that very soon after the advent of Major Grayson F. Murphy, of the Red Cross in France, he cabled home for 100,000 half-pound tins of ether and paraphernalia and operatives for gas-oxygen plant.—Ed.)

"Their chloroform and ethyl chlorid are all right and most of the anesthesia here is accomplished with these agents. I have come to the point that, with all my anti-chloroform prejudices I am using chloroform in all cases when I cannot get American ether. For the short anesthetics I use ethyl chlorid on an open mask, and like it. Nitrous oxid here is almost out of the question. I understand that Major Crile brought a lot of it over for the Lakeside unit, but I do not know of any other available source here at our part of the front. A number of units have gas apparatus, but at present nothing to use in them.

"It scares me green to see the way they pour on chloroform here. They use it about as we do ether back home. They don't seem to fear it at all, but that may be because of the extremely low price fixed on human life in this war. They have their accidents, of course, but seem to think them infrequent."

AN American surgeon serving in the British Medical service in a letter to the editor of an exchange says in part:

"There are several things I observed of a minor nature, which seem to me worthy of consideration. In the first place, our field dressings are white bandages. It is evident that white is a good target. British field dressings are khaki-colored bandages which allow a man slightly wounded, to return to the line without a visible target attached to him.

"The British also have wheel stretchers, which, on good roads in the back area, I should think, might be most useful. They consist of a pair of large wire wheels to which is attached a wooden platform, which has this theoretical disadvantage: If the bearer stumbles or falls for any reason, the stretcher upsets. This could be obviated, it seems to me, by a post attached, and by always seeing that the center of gravity is over the post end, much as a peddler's cart on the east side of New York City.

"A third point is that I trust every American ambulance will be well supplied with bandage scissors. They would facilitate work greatly if the British were accustomed to them as we are. There also should be, I believe, a hypodermoclysis outfit with each ambulance. Several men could have been saved, I feel sure, who through shock and hemorrhage died on our hands.

"When in rest the ambulance acts as dispensary and field hospital for the sick of a brigade of the division. I have noticed among these there are a great many cases of a superficial infection of the skin and connective tissue, which begin much as furuncle and go on slowly breaking down, involving wider areas. Incision only shows a core of white necrotic tissues without pus. This necrotic tissue separates very slowly, leaving a slow-healing ulcer behind. These infections are frequently multiple, and occur on any surface, except the palms and soles. I find from inquiry that this state of affairs is very common, and the staphylococcus aureus is generally responsible. Why there is so little reaction to the infection remains a mystery to all. It seems to me that about one out of every six reporting sick are victims of this peculiar trouble. Whether this malady is solely confined to the British "Tommy" I am not prepared to state, but I am told not. We have been trying the 'Scarlet R' ointment lately, but it is too early to draw conclusions.

"I suppose one of the greatest pests of summer time is the common house fly. Thanks to the poor domestic arrangement of these Flanders houses; there is always a large manure-pit in the center of the court-yard of each farmhouse. In the field no attempt is made to bury horses which are killed. From such breeding places the fly swarms so thickly as to be an absolute pest. Yet it is surprising to me that there are so few cases of the fly-blown illnesses.

"In conclusion, I wish to say that possible these facts are trivial or already unknown, yet I consider it a part of our function to report what we observe."

THE Auckland Hospital and Charitable Aid Board, New Zealand, established in 1909 a free dental department for the benefit and accommodation of those who are not able to have their teeth properly taken care of in the community, since which time 23,555 persons have made application for treatment. During the period 18,530 teeth have been extracted, 11,919 fillings put in, and 1,264 vulcanite dentures made. The staff at present comprises two dental surgeons and two attendants, besides a number of honorary members of the staff who have given their services free of charge. In return for this free service the hospital board has given the dental association free use of a portion of the hospital for housing a valuable dental museum presented by a prominent individual of this city.

THE great agent in the spread of those diseases whose causative organism is present in the secretion of the mouth and nose, is the human hand; and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact, most of us carry our fingers to our mouths or nose many times daily, there to implant the germs of disease which other careless people have spread about, there to collect a fresh cargo of infectious material to scatter for somebody else.—*Public Health Bulletin.*

THE following from the *Cleveland Plain Dealer* is self-explanatory:

"German gas attacks should hold no terrors for our 'Sammies,'" said the passenger who sat near the door.

"Why?" asked the curious conductor.

"Well, you see," replied the passenger, "most of the boys before they went away to war had to ride to work in street cars."

"Huh!" grunted the conductor, "I see you are a fresh air fiend."

"Yes, and an outcast among my kind because of it. Why, do you know," said the passenger, warming up to his subject, "pigs—common, ornery, everyday pigs—when they're shipped to market get more air than we do when we're jerked to work of a morning."

"Well, I ain't no Jess Willard," growled the conductor.

"I don't get you," said the passenger.

"Well," replied the conductor, "if I'd open a window now I'd have half a dozen fights on my hands. These birds," with a jerk of his head toward the car's cramped occupants, "these birds ain't snow-birds, you know."

"I know," said the passenger, resignedly. "And if I'd take my life in my hands and open a window I'd have to fight you and the others, too."

"Sure," said the conductor, cheerfully. "We ain't running the cars for no one man. We aim to give the public service, an' if they want their service minus outside air, why it's up to them."

"I suppose so," said the passenger. "Say, did you know that along the Tigris and Euphrates rivers, where the primitive races lived and where the climate was dry, the houses often had no roofs: the whole top was a winodw?"

"No," replied the conductor, guardedly. "I guess that was before my time. But I tell you what! I know the company's got an agreement with the health department to keep four of each car's ventilators nailed open—permanently, you understand? I guess that's as far as we can go."

"Helps some," said the passenger, as he rose to get off, "but don't let these other hibernators hear of it or you'll have an awful riot on your hands!"

THE following from an exchange emphasizes the fact that income and infant mortality are closely related:

"That the chance of life of the baby grows appallingly less as the father's earnings grow smaller is shown by the combined results of studies of infant mortality among 13,000 babies in eight American cities—Johnstown, Pa.; Montclair, N. J.; Manchester, N. H.; Brockton, Mass.; Saginaw, Mich.; New Bedford, Mass.; Waterbury, Conn., and Akron, Ohio. One-fourth of all the fathers earned less than \$550 a year; in these families every sixth baby died. Only about an eighth of the fathers earned \$1,050 or more; of their babies only one in sixteen died. The rise of prices and the disorganization of social and industrial life with the war accentuate the importance of this persistent relation of income to infant mortality."

"THE most important thing for a young man starting life is to establish a credit, a reputation, character. He must inspire the complete confidence of others."—*John D. Rockefeller.*

ARSPHENAMINE is the name adopted by the Federal Trade Commission for the hydrochlorid of 3-diamino-4-dihydroxy-1-arsenobenzene—in other words, salvarsan. Three firms have been licensed to manufacture and sell arspenamine; each manufacturer may have his own trade name on the label, but the official name must be the prominent one on all packages.

THE trustees of Columbia University have established a diagnostic clinic for those people unable to pay for services of a number of experts, whose special advice for examinations may be needed in order to make a diagnosis. It is expected that the clinic will act as a distributing center for a number of hospitals. Every clinical worker will be paid for his work and the patient charged a fee commensurate with his income.

IN response to our appeal for names of additional firms maintaining Industrial Dental Dispensaries, the Kabo Corset Company, Chicago, Ills., has been added to the list. We shall be pleased to receive other additions or corrections.

THE heatless Monday order reads: "Physicians' and Dentists' offices may remain open. Think of the significance of that! Ten years ago a dentist would have been overlooked, but he isn't today. Undoubtedly, the intention of this exception was the relief of pain. Indirectly, many people will have the leisure to have their teeth attended to that would otherwise be neglected.

A RECENT Government circular states its need of over 15,000 workers. Clerical, testing, mechanical, drafting and inspection positions are open and salaries paid vary from \$1,100 to \$3,000 per annum. Further information may be obtained of the local representative of the United States Civil Service Commission at any Post Office or Custom House.

THE dental profession is acquainted with the diamond drill, a small fragment of diamond mounted for use in the dental engine and employed to cut cavities in artificial teeth. For commercial use, black diamonds are employed. These are mounted on various sized cylindrical-shaped drills, six or eight to the instrument, and employed to remove cores of rock or drill holes in marble.

The black diamond is found in two small districts in Brazil. Previous to 1880, it cost from \$2 to \$10 per carat; but with the limited supply and increased use, it has risen steadily in price and now sells at from \$75 to \$100 per carat. Some 15 to 25 carats are used on one of the commercial drills, thus making the initial cost about \$2,500 per instrument.

This huge drill is employed on account of quick and accurate results obtained, as a drill hole secures the same information as a tunnel or shaft, at a greater reduction of time, labor and cost. It is said that the German government drilled a hole in the earth of over 8,000 feet. The mechanical problems in hoisting and lowering the rods holding the drill, prohibit their more extended use. In the case of the German borings, it took from eight to ten hours at the deepest borings to hoist and lower the rods and from nine to fifteen months were consumed in drillings.

The carbon of the black diamond is harder than the brilliant, crystallized diamond worn in jewelry and possesses the great advantage of no cleavage planes. It will thus stand a heavier pressure, but will break under a blow. Chilled shot and saw-edged bits have been used as substitutes with more or less success, but the black diamond has been found more efficient and economical.

THE Bulletin of the Ninth District Dental Society (N. Y.)—it is only four pages but in a class all by itself. To prove it, we give a reproduction of the first page.

Dr. David W. McLean, Mount Vernon, is the president, and he it is who supplies most of the "pep" for the reading pages.



BULLETIN

OF THE

Ninth District Dental Society

Vol. II. No. 1.

January, 1918.

This is the Special Preparedness League Number.

It is Dedicated to Live Ones.

If You are a Dead One, don't read it.

Shut off the Alarm, and Turn Over.

The Next Regular Meeting

of the Ninth District Dental Society will be held at the Academy of Medicine, 17 West 43rd Street, New York City, on Saturday, February 9th. Subject, "Removable Bridge Work of Various Types." Save the date.

OH, what is the pretty smoke wagon? It is a Dental am-bulance.

Where does it am-ble? Behind the lines in France.

Is the picture a good like-ness?

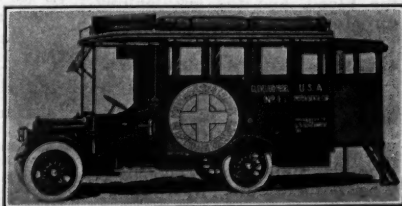
No the bus has been im-proved, it now has a tent attached to each side.

What does the am-bulance do? It stops tooth-aches, and fixes bust-ed jaws and things, and cures stom-a-ti-tis and thus prevents much sic-kness among the sold-iers.

How many tooth-aches can it stop each day? A great many for it carries four dent-ists.

What are four dent-ists doing on one am-bulance? Well, one works at a chair in the bus, and one at a chair in each tent. That makes three. The fourth one sits under a tree and smokes cig-a-rettes that are given to him by the New York Sun. He also gives the poor soldier Happy Gas while one of the other dent-ists pulls his teeth.

How per-fect-ly love-ly! What does the am-bulance cost? Thirty-seven hund-red si-mol-ons.



Oh my, where do you get the mon-ey? You either dig into your pock-et (it has to be a big, deep pock-et) or you get up a con-cert and make lots of mon-ey that way.

But doesn't that mean work? Oh yes, but you are a pat-riot and don't mind work. Besides it isn't half as much work as dig-ging trenches and getting all mussed up by a bul-let made in Ger-many.

That is in-dub-it-ably cor-rect. Would you like to give the Boys a nice big shiny new Am-bulance? OH BOY!

HONOR ROLL

First Lieutenants, U. S. Reserve, Dental Corps.

Dr. H. T. Berkey, Tarrytown.
Dr. J. C. Burr, Fort Jervis.
Dr. M. B. Bevier, Poughkeepsie.
Dr. Philip Frachtman, Suffern, N. Y.
Dr. W. P. Mahoney, Millbrook.
Dr. Robert Morrow, Nyack.
Dr. Leslie C. Peterson, Croton-on-Hudson.
Dr. J. W. Schelpert, Jr., Mount Vernon.
Dr. W. H. Steurer, Mount Vernon.
Dr. J. E. Hughes, Tarrytown.
Dr. I. A. Marsland, Mount Vernon.

An American Flag on the lapel of a Dentist's coat marks him as a fireworks and talk patriot. The Preparedness League Button marks him as a worker.

Wear the Button.

Said Kaiser Bill to his army at Yuletide, "We must show that our offensive spirit still exists." Rest assured, Bill. It is just as offensive as ever.

Laura de Turczynowicz is an American woman who married a Polish nobleman. When the Germans invaded Poland, one of her children was "down with Typhus" and could not be moved. She stayed through the German occupation and her book "When the Prussians came to Poland" is well worth the price of admission. Incidentally she was a Red Cross nurse, and writes as follows: "That night a sanitary train was leaving for Vitebsk with a tremendous load of wounded * * * I went into the operating car at eight in the morning leaving for meals only, staying until nine at night. * * * The effort of standing is in itself much, but the sight of so much suffering, the tug at the heartstrings; and one never gets through. Most of the men had toothache aside from their wounds. We used to paint the aching teeth with iodine, putting absorbent cotton in them; the idea that something was being done for them helped, I imagine, more than anything actually done."

Whether this state of affairs will exist among our wounded depends largely upon the Preparedness League workers.



FUNNIES

We want good, clean humor for this page and are willing to pay for it. Send me the story that appeals to you as "funny," and if I can use it you will receive a check on publication.

Address: EDITOR

186 Alexander Street, Rochester, N. Y.



Old Stuff On Boy!

A TRAVELING man one night found himself obliged to remain in a small town on account of a washout on the railroad, caused by the heavy rain, which was still coming down in torrents. The traveling man turned to the waitress with:

"This certainly looks like the Flood."

"The what?"

The Flood. You've read about the Flood, and the ark landing on Mount Ararat, surely."

"My! mister," she returned, "I ain't seen a paper for three days."
—S. B. K., Haddonfield, N. J.

A PHYSICIAN was called in one of the suburban towns to a boy who was suffering from tonsillitis. The boy's mother was relating the affair to a neighbor, commending the doctor for his treatment. The response of the elderly woman was: "Well, in old times when a boy had a sore throat we used to take a strip of salt pork and sprinkle it plentifully with pepper and bind it around the boy's throat, but at the present price of salt pork it may be cheaper to have a doctor."

OFFICER: "My man, w h a t would you do if you saw a tank coming down that road in front of you?"

Private: "Call out the guard, sir."

Officer: "Good! And what would you do if you saw a battleship coming down the same road?"

Private: "Report to the 'ospital for a medical examination, sir."—N. M., Queenstown, South Africa.

A GANG of Italians caught an owl, and thinking it was a chicken, took it home and had it for their dinner. The next day Mike, who had the biggest part of it, was sick. The boss inquired for him. The answer was: "Mike, he mucha sick. Eat too mucha da big-eyed chick."—P. E., Newton, N. J.

"O MARY! Last night I dreamed we had the niftiest little run-about and—"

"John Henry Smith, you go right back to sleep and dream a limousine, or get out and walk! There'll be no cheap dreaming in this family!"—J.W. B., Syracuse, N. Y.

THE boss blacksmith of a large horseshoeing establishment came upon one of the employees fast asleep alongside of the forge. Eyeing the man with a stern smile, he said: "Slape on, ye idle bum, slape on, slape on. So long as ye slape ye've got a job, but when ye wake up ye're out of work."

It was a Pike County woman who indicted a note to the teacher concerning the punishment of her young hopeful. The note ran thus:

Dear Miss—: You rite me about whippin' Sammy. I hereby give you permission to beat him up any time it is necessary to learn his lesson. He is just like his father—you have to learn him with a club. Pound nolege into him. I want him to get it and don't pay no attention what his father says—I'll handle him."

LISTERINE

is a powerful, safe and fragrant antiseptic, markedly efficient and suitable to many requirements in dental practice.

LISTERINE

is strictly non-poisonous and may therefore be freely employed as an antiseptic mouthwash by the patient whenever oral sepsis is to be combatted.

LISTERINE

is unirritating and slightly stimulating in its effect upon the salivary glands, thus favorably influencing the maintenance of the normal salivary mouth-bath which Nature provides for the care and preservation of the teeth and mouth tissues.

LISTERINE

in a 25% solution, used as a spray prior to and following surgical operations upon the teeth or mouth, is beneficial in effect and very agreeable to the patient. Such a solution kept on the dental cabinet in an atomizer ready for immediate use, will highly recommend itself to practitioner and patient alike.

On request, we furnish, free of cost, 200 copies of "The Dentist's Patient" or "The Teeth and Their Care," imprinted with professional card.

Lambert Pharmacal Company

St Louis, Mo., U. S. A.



I. W. Lyon, D.D.S.

Enlarging Your Practice

Dr. I. W. Lyon first gave prominence to the formula:

- (1) Consult your dentist twice a year.
- (2) Everyone needs a good dentifrice because thorough cleansing is the most you can do for your teeth.

Dr. I. W. Lyon, himself an ethical dentist, evolved his tooth powder from his own knowledge and the counsel of other prominent dentists. Many dentists use it in their practice and recommend it to their patients.

Today we continue to impress millions of people each month that the surest, safest way to have fine teeth and preserve them is (1) Consult the dentist twice a year, and (2) to keep them clean with

Dr. Lyon's

The Dentifrice that made fine teeth fashionable
Powder

Cream

A request from you—on your office stationery or card—will bring you free of charge a large pound can of Dr. Lyon's for use at your chair

I. W. LYON & SONS, Inc.

526 West 27th St.

New York City



CRESCENT ALLOY

THE TOOTH SAVER

"Amalgamated by its might
Rejoice, it makes the whole world bite."

ONE SEVENTY-FIVE PER OZ.

Any higher price cannot buy a better alloy

Consolidated  Dental Mfg. Co.

130 Washington Place, New York

We Suggest the Use of an Iodine Disclosing Solution

How is it applied?

Apply the stain to the teeth with a pledget of cotton. Have the patient immediately rinse out the mouth with water and then note the results.

What does the Iodine Disclosing Solution Show?

Clean tooth surfaces, free from albuminous plaques, will not stain. Any stains showing upon the teeth are due to the staining of the plaques by the iodine.

These are the plaques in which acids are formed through the action of bacteria, which acids are the cause of tooth decay. These plaques, if not removed, may become the basis for tartar formation and the evils which it may produce.

How is this solution of value to the Dentist?

It will enable him to convince his patient of the need of keeping the mouth scrupulously clean. It will also aid him in carrying on his prophylaxis work at the chair. All Dentists recognize the necessity of striving for the ideal of plaque-free teeth.

Is this Iodine Disclosing Solution in use now?

Yes. It has been and is now being used by some of the best prophylaxis specialists. It was developed several years ago by a well-known specialist and its continued use has shown its value. *Through the courtesy of the Originator of this Disclosing Solution, we are able to send you, without charge, the complete formula.*

What is Pepsodent?

Pepsodent is a tooth paste based on sound scientific principles. Its use will keep the teeth wonderfully free from plaques. It is prepared for that purpose, and clinical results obtained during the past three years show that it stands in a class by itself for this purpose. It also has other virtues, which will be gladly told to you. All that is asked is to give it a fair trial in connection with the Iodine Disclosing Solution.

Fill out the coupon and mail it today.

THE PEPSODENT COMPANY,

3002 Ludington Bldg., Chicago, Ill.

Please mail Iodine Disclosing Solution formula, also large tube of PEPSODENT, for personal use, free of charge.

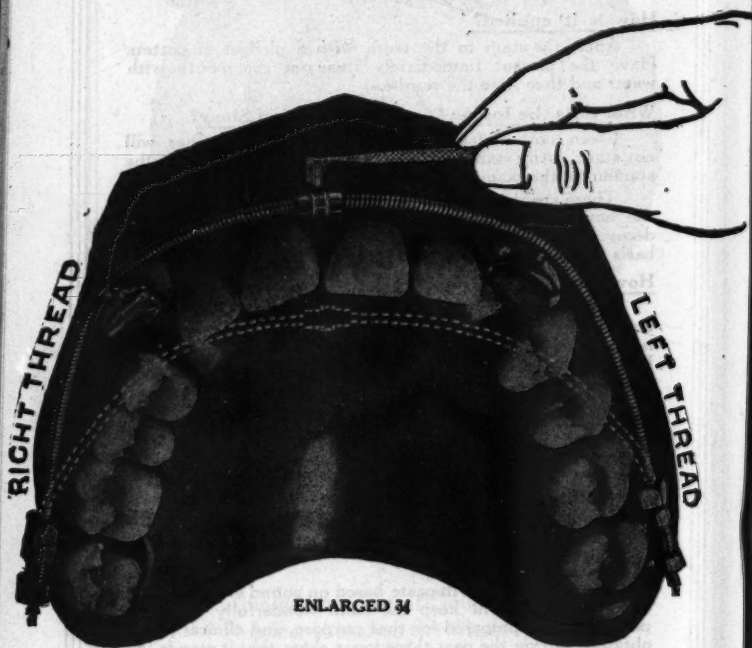
Dr.

Address

(Enclose card or letterhead)

CANNING'S LATEST

Regulating Appliance



A non-oxidizable spiral spring, screwing through a hollow threaded bolt on the molar bands, left thread on one side, right thread on the other. The nut in median line quickly turns both sides of the arch at the same time.

Simplicity itself, easily adjusted, works like a charm—the arch does it, you put it on. No pain to the patient, no worry to the operator.

Orthodontia made easy to every dentist.

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Tastes Good
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Ask your dealer or
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ASKO APEX BROACHES

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Asko Apex Broaches are especially designed for opening up and treating root canals.

The Asko Apex Broach is given just a few turns into the canal—then directly withdrawn.

By repeating this operation a few times you remove every vestige of infection from the apical area.

FOUR-SIDED

Asko Apex Broaches are made four-sided with a short, twisted point. This makes it possible for you to open up the end of the root as with a reamer.

FLEXIBLE AND STRONG

Like all Asko Broaches, Asko Apex Broaches are flexible and strong. They have "muscle and back-bone."

You will find them almost indispensable for the purpose of placing medicament or bits of cotton at the apex of the canal.

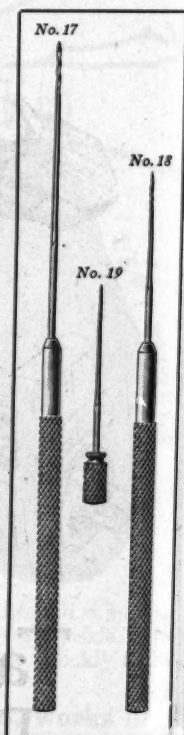
Asko Apex Broaches have no barbs to break off.

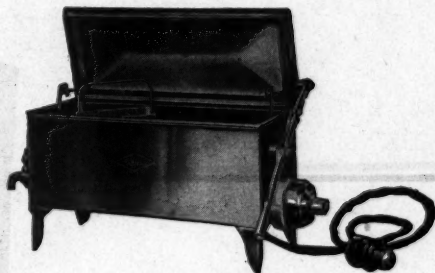
They are easily sterilized and kept clean.

Mounted on permanent aluminum handles.
All sizes. All styles.

1 Doz. \$1.50; 1/2 Gross \$8.10; 1 Gross \$15

Ask your dealer or
A. S. KOCH & SONS
LANCASTER, PENNA.





The Castle does its bit

Economy of current is always a desirable feature in any electrical device.

But it is now not only desirable but also really a vital consideration, for it is a patriotic duty to save current when so much of it is needed for the manufacture of war materials.

The Castle is the economical sterilizer because of its three-way control, which economizes current.

And the three-way control is only one of the several valuable features of the Castle sterilizer.

Send for the booklet and make it a point to examine the Castle next time you are in your dental depot.

WILMOT CASTLE COMPANY
798 St. Paul Street
Rochester, N. Y.

Copper *adea*



The *Sal* germici

The fact that Smith's Copper Cement **WILL NOT DISCOLOR IN THE MOUTH** does not detract from its germicidal efficiency.

If it did discolor in the mouth, that fact would not increase its germicidal efficiency.

Dr. Raymond F. Bacon, Director of the Mellon Institute of Industrial Research, characterizes it as "a perfect germicide."

And the Mellon Institute is the chemists'

Supreme Court from there. But Smith's Copper Cement is a perfect germicide.

It is also a perfect zinc cement—for is that of oxyphosphoric acid and zinc copper in a form **WILL NOT DISCOLOR IN THE MOUTH.**

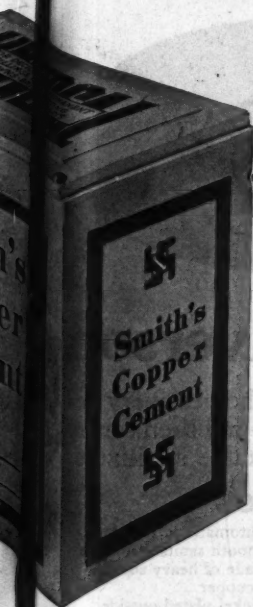
It is adapted for setting crowns, inlays and for general fillings.

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Always say "ORAL HYGIENE" when you write advertisers.

added to zinc



Salermicide

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ment of the
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of zinc cements, plus
WILL NOT DIS-
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se crowns, bridges and
erlings.

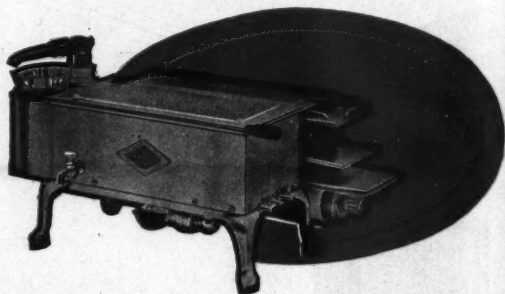
Because it's the stickiest of stick cements and—
Because the copper salt it contains absolutely
destroys all forms of bacteria coming in con-
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of cases during a period of more than five
years we continue to make the unqualified
claim that it is the only cement containing
copper and therefore germicidal, which—

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"Halversonized means Sterilized"



—the Master Halverson

THIS NEW HALVERSON embodies every requirement of a perfect sterilizer—and then some. It is easily the world's leader in portable sterilizers.

Note its features

Wet sterilizer unit	Drain faucet	Automatic lifting tray
Dry sterilizer unit	Two cool lifting handles	Smooth sanitary bottom
Red signal light	Double thick cover	Made of heavy solid copper
Safety fuse screw	Asbestos-lined heating element	Nickel-plated outside.
Tumbler and spray-bottle warmer	Rubber-tipped legs	Silver strike inside

The dry-air unit

—with three different degrees of heat will sterilize cotton pellets, gutta percha points, canal absorbent points, clamps, broaches, etc.; will warm impression wax, dry out inlay investment or dry your instruments and permit removal to cabinet without contamination.

A great help in root canal operations. This dry-air unit is always ready for service when plugs are inserted in wet sterilizer, and may be used simultaneously. Order one today from your Supply House.

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If you want more business, our business is to increase your business. We print your advertising cards and distribute them from house to house anywhere in greater New York and twenty-five miles around.

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Unanimous

North, South, East and West combine in praise of

Novol

Local Anaesthetic with Suprarenal-Ext. Tablets

Truly, Novol is
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Your Novol is
very efficient—
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I am not nervous
any more—
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↓
It is great stuff— S
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We will send you a 4 oz. bottle through your dealer on approval.

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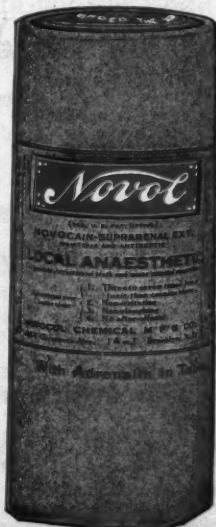
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Just sign and mail with a Harrison Blank

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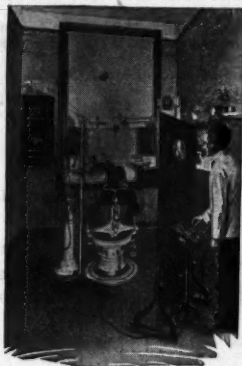
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Petry System contains 24 different sizes—OLD and NEW Style
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The cups of Petry Retainers are united with the base by the process of vulcanization, and manufactured of the best rubber obtainable.

Any defective or deteriorated Retainer will be exchanged FREE of charge.

The base of Petry Retainer contains a screen which is patented, therefore your guarantee against imitation.

The screen in base is the backbone of the invention, prevents loosening of the retainer from plate after it is cemented to plate.

The retainer is cemented under the flange, created by two pieces of metal furnished with the outfit.

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Sold by all leading dental houses and attached to plate by all leading dental laboratories.

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CATO kills germs in the mouth and on the Tooth Brush. So say the world's leading Bacteriologists.

Sugary, sweetened, glucose dentifrices do not kill germs, but actually act as a culture media for the propagation of germs, both in the mouth and on the tooth brush.

In the treatment of Pyorrhea—



*Your instrumentation,
CATO Emetine Hy-
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Will work wonders.*

If your druggist doesn't have our goods, send direct. CATO Tablets \$1.00—Cato Paste 50c. A trial will convince you.

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June 30th, 1917.

Lee S. Smith & Son Mfg. Co.,
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Pursuant to your invitation to act as a Board of Review, we have visited the Mellon Institute of Industrial Research, carefully observing its resources and methods of procedure, and are highly pleased with its favorable opportunities for research work.

We have also reviewed the voluminous correspondence with and reports from the Committee of approximately 1000 Dentists, to whom samples of your Silicate Material had been sent in order to determine its clinical value, and we cannot fail to be most favorably impressed with the uniformly good reports received from all sections of the country.

We desire to commend you for having sought the active cooperation of the profession in determining the merit of this material before placing it upon the market, and you have, so far as we can determine, conducted your investigations as set forth in your announcement of August 1916.

Respectfully submitted,

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A precedent had been established in placing the material in the hands of more than a thousand dentists for a year's test in the mouth *before* offering it for sale.

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It will be remembered that, in June, 1917, a Board of Review met in Pittsburgh for the purpose of auditing clinical records received from the "Committee of 1000."

These records covered thousands of cases in which Certified Enamel had been tested in the mouths of patients by members of the Committee.

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*Have you made a mix? Mixing is believing.
Certified Enamel is at dealers everywhere.*

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No Narcotic Blank is Required

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Our distribution of Novocain will be as prompt and widespread as the filling of Government orders will permit.

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There's a Reason for CALOX being a Powder

CALOX contains available Oxygen in the form of compounds, which, when coming in contact with water or moisture, form Hydrogen Dioxide. This substance rapidly decomposes in the presence of organic matter, generating active or nascent oxygen.

Thus a paste containing Peroxide of Hydrogen would lose all its Oxygen in a few minutes.

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CALOX

is the OXYGEN TOOTH POWDER

To prove it, just pour a little solution of potassium iodide on a piece of white blotting paper, sprinkle a little CALOX on it and note the blackening of the paper due to the action on it of the iodine set free by the nascent oxygen. Then try the same experiment with a so-called "peroxide paste" and note the absence of any discoloration. You cannot put Oxygen in a paste.

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Regular Course
12 months, fee \$100

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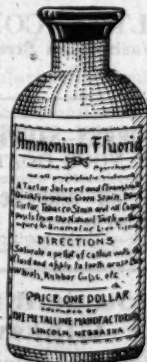
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Removes green stains

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It is, primarily, a pyorrhea specific of known value. Are you using it?



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5 and 10 lb. paper cartons
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But every local that's wrapped in red paper isn't ALVATUNDER

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ALVATUNDER is the oldest member of a group of products sold under the ALVA trade-mark.

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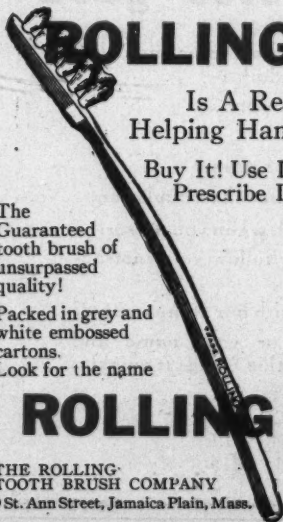
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BUTTON THEM IN with the BISCHOF-OTRICH Attachment



Make your plates
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Crushing Strength

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**All Around
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Each Batch
SCIENTIFICALLY
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PRICE:

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Try HOOD' STRIPS and all annoyances in soldering will disappear. In your next order say "In Strips."

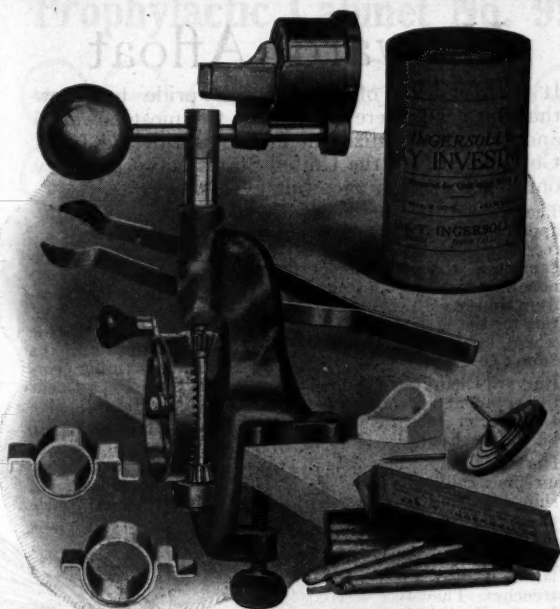
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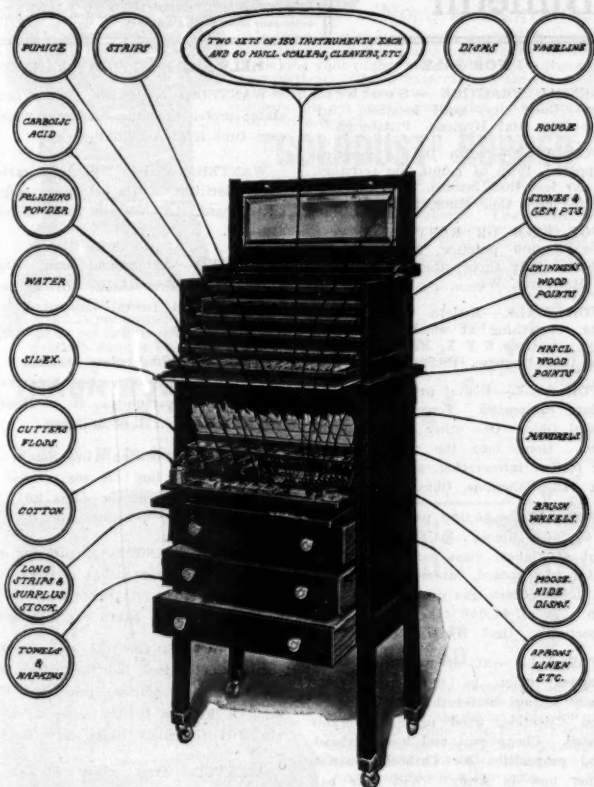
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The circulation is in excess of 45,000 copies.

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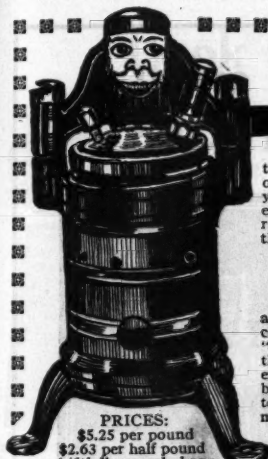
The quantitative formula of ALBODON DENTAL CREAM, sample of the preparation, and analytical reports will be sent prepaid to any dentist or dental student willing to make an earnest comparison of ALBODON with other dentifrices with a view to satisfying himself: "Which is the best one to prescribe in my practice?"

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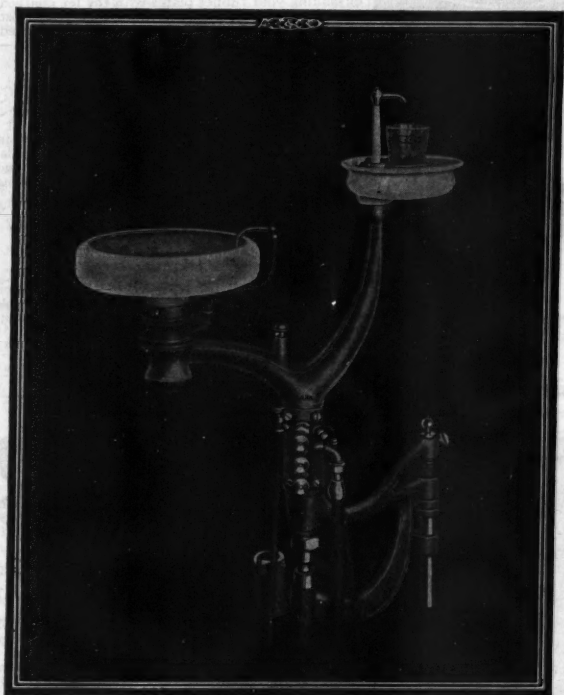
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Stimulates without destructive irritation

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"I get two and three times as much for amalgam work since I have used the Crandall method and my services are worth the money I charge for them."

We quote from this letter, without the writer's permission, because he seems to us to have hit upon one of the vital reasons for the prevailing low fees for amalgam work.

Many dentists contend that their patients will not pay more than a certain small sum (usually seventy-five cents or one dollar) for any amalgam operation.

If the real reason for this should be traced to its original source it would often be found in the dentist's lack of confidence in his amalgam work.

The CRANDALL METHOD OF AMALGAM RESTORATION gains the confidence of the patient because of its careful attention to detail. It gives the dentist that confidence which comes from the use of a scientifically correct material according to a standardized method. His belief in the permanence of the result will enable him to obtain suitable fees for it.



Ask us to send you "Standardizing the Amalgam Filling," a 72-page book, with nearly 80 illustrations, which outlines fully the Crandall method of Amalgam Restoration. Published for free distribution to the dental profession by

THE CLEVELAND DENTAL MFG. CO.
CLEVELAND, OHIO, U. S. A.



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Calxine Seals without Pressure



Because it is mixed thin, Dr. John L. Kirby inserts Calxine with a Jiffy tube in situations difficult of access.

Because it is mixed thin, Calxine can be inserted without causing the slightest pressure, although it can not be compressed in the cavity after it has set.

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Always use Calxine to seal dressings; it seals without pressure because it is mixed thin.

Single portion packages
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Calxine is made in the laboratories of

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Standard Forceps, Elevators
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Crandall's Scientifically
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The process is a secret.

When we started in 1865, our knowledge of rubber was not nearly so profound as it now is. In our fifty-three years of practical experience, we learned how to make *the best* dental rubber, and that rubber is SAMSON.

Not the best because we say it is, but because the dental profession admits it is.

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We have not increased the price

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Gives a polished surface to your Vulcanite denture and when used in conjunction with the Metallic Lining, brings out its Lustre.

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NO GUESS WORK

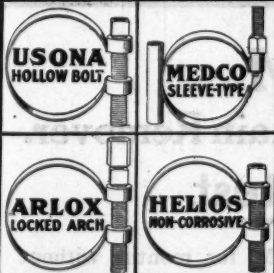
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8 Styles of BANDS

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Dearborn Nerve Paste

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Model C-P 3 inch
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HIM softens the deposits and removes the stain.

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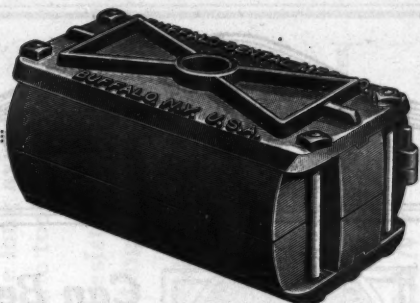
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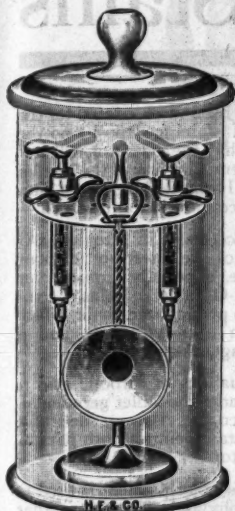
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Instruct Your Laboratory

If necessary, send your lining cases to our laboratory for the Roscinian Linings to be put on, where your denture will be made and finished, representative of the highest art in this branch of prosthetic dentistry.

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Metallurgists and Manufacturers
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Manufacturers to the Nobility of the Profession

Removing Stains

The question has been repeatedly asked why some powerful stain remover is not incorporated in Prophylax-O Tablets (Gardner).

The reason for not incorporating a powerful agent will meet with the approval of the dental profession as a whole, as well as every dental instructor.

Prophylax-O Tablets (Gardner) are pumice in a convenient form, containing other essential ingredients to make them a well balanced cleaning preparation, and they possess the property of disintegrating readily with the addition of a few drops of water or hydrogen peroxide. Their primary object is convenience, which is achieved by their tablet form and their disintegrating property. They, of course, contain an astringent, a germicide and a gum tonic as well as a pleasing flavor for the patient.

To combine a powerful stain remover in a tablet that is constantly in use in the dentist's office would be an injustice to the laity, to say nothing of the imposition on the dental profession. The dental profession as a whole looks askance at any preparation containing a powerful stain remover, and especially those who have had an opportunity to observe patients' teeth with a microscope after these stain removers have been used frequently. The enamel has been literally honey-combed with small pits. To reach stains that are below the enamel, the enamel must be penetrated. An agent that penetrates the enamel will remove stains but at the same time it destroys the enamel rods.

The use of powerful agents should be left, if their use be at all sanctioned, to the discretion of the operator. No two cases require the same amount, the same strength or the same technique.

Iodine has been incorporated for the purpose of staining deposits on the teeth so that the operator will not overlook removing any of the smaller plaques. Iodine is the greatest gum tonic and counter irritant known.

The pumice used in Prophylax-O Tablets is of the finest bolt of flour of pumice, especially ground for Prophylax-O Tablets. This is combined with precipitated chalk, which affords an abrasive agent and a polishing agent combined.

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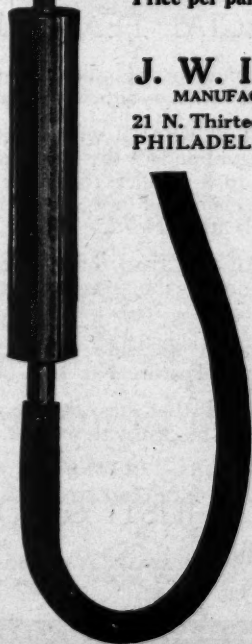
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JUSTI detached shoulder pin **CROWN**



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THIN BITE which corresponds to that of a natural tooth—Feature No. 1, as shown in illustration.

LONG ROOT SURFACE with additional porcelain at the lingual end of the base that the crown can be fitted to a smaller root base by grinding away the porcelain and not interfering with the cement cup—Feature No. 2.

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An **ALLOY PIN** that has the requisite tensile strength and can be cast with a 24 kt. Gold base—Feature No. 5.

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Prepared by E. W. Dodge, D.D.S., Fort Wayne, Ind.

Because it is successful in all forms of abscessed or putrescent teeth, removing the trouble in from one to three treatments. It forms an antiseptic dressing over the walls of the root canals which promptly reduces most stubborn cases.

Oxpara consists of a liquid and a powder, the essential constituents of which are the well-known antiseptics and germicides—formaldehyde, thymol, alum and creosote, so proportioned as to produce, when mixed, a creamy paste, which can easily be forced to the apex of the root.

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Oxpara was the first preparation of the kind placed on the market, and its sale now extends all over the world wherever dentistry is practiced.

For breaking up blind abscesses and old fistulous tracts, Oxpara is immediately effective. Its action hastens the elimination of diseased tissue and encourages healthy granulation, with the minimum of pain and discomfort. A tooth so treated can be safely restored by a filling or crown, or used as a bridge abutment. Neither Oxpara nor any other known remedy can reach and cure a crotch abscess. Oxpara does not infiltrate bone tissue.

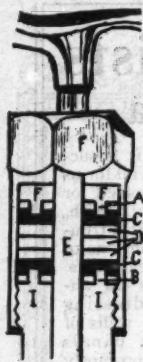
Oxpara has been in use too long to be classed among the experiments. Not only all over America and in Europe, but wherever modern dentistry is practiced, it is in daily use, and the demand for it is constantly growing. Sample for the asking.

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B--Ferrule at end of Barrel.
C--Metallic Metsan Washers into which Ferrules A and E are sunk by pressure.
D--Three Metsan White Felt Water-proofed Washers.
E--Plunger.
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Here, at last, the leak-proof syringe "Metsan" Hypo

(Patent applied for)

Guaranteed leak-proof at both ends when used in conjunction with Metsan Metallic Needle and Plunger Washers. Sanitary and Ever-Ready—Every drop of your solution finds its way into the area to be injected. *No oozing out from the back end!* No more oil-soaked washers to gather filth, dust and germs. No glass barrel to break, no costly repairs. Can be used for local and conductive anaesthesia! Can be boiled for hours without removal of or injury to the washers.

THE ACME OF ALL HYPOS!

The outfit consists of one Metsan Non-Leakable Dental Syringe, one Wrench, one long and one short chuck for Schimmel Needle, and extra Metsan Needle and Plunger Washers.

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Send them to us for re-sharpening.

When you get them back you'll find they cut like new burs.

Our work is not the ordinary sort of bur sharpening—we know how to re-sharpen burs and take pride in doing it right.

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Although it is strongly antiseptic and cleanses thoroughly, Dr. Sheffield's Crème Dentifrice is exceedingly bland. Its action is so delicate that it may be safely used on gold, porcelain or alloy, without the slightest danger. It is the best tooth paste we can make at any price.

**SHEFFIELD
DENTIFRICE
COMPANY**

Established 1850
New London, Conn.

The oldest manufacturers of tooth paste in America

SAL HEPATICA

EFFERVESCENT
SALINE COMBINATION
LAXATIVE & ELIMINANT

Materially aids the Local
Treatment in Pyorrhea

SAMPLES ON REQUEST

BRISTOL-MYERS CO
NEW YORK



Give your pyorrhea patients the benefit of vaccine therapy

The use of vaccine in the treatment of pyorrhea alveolaris rests on the assumption that certain pyogenic organisms are actively concerned in the etiology of the disease, the *streptococcus* being practically always present, with the *staphylococcus albus* and *diplococcus pneumoniae* the most frequent secondary invaders.

PYORRHEA ALVEOLARIS VACCINE

COMBINED

represents polyvalent cultures of *streptococcus pyogenes* (the organism found to be constant in the alveolar pus pockets), *staphylococcus albus* and *diplococcus pneumoniae*, the cultures being carefully selected from pyorrhea cases.



Pyorrhea Alveolaris Vaccine Combined is being used with marked success. It is sterilized and ready for hypodermic administration. Complete directions for its use accompany each package.

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No. 626. Pyorrhea Alveolaris Vaccine, Combined, packages of 4 bulbs; per pkg.....	\$1.50
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No. 628.* Pyorrhea Alveolaris Vaccine, Combined, package of 4 syringes; per pkg.....	3.00
No. 629. Pyorrhea Alveolaris Vaccine, Combined, package of one 5-mil vial; per pkg..	1.00
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*Supplied on unspecified orders.

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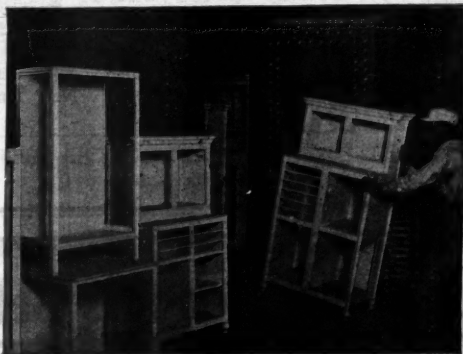
We have published an informative pamphlet on "The Principles of Vaccine Therapy in the Treatment of Pyorrhea," from the pens of George Bailey Harris, D. D. S., and E. M. Stanton. This brochure consists of ten pages of text matter, profusely illustrated. Upon request we shall be pleased to send a copy to any dental practitioner.

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The enamel is kiln-fired, six times.


After each of the six coats of enamel is sprayed on, the cabinet is fired in a kiln.

When No. 1 coat has set, No. 2 is applied. The enameling and firing process is continued until six coats have been applied and fired.

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(This is No. 5 of a series.)

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<p style="text-align: center;">THE SILENT</p>	<div style="text-align: center;">  <p>KAYESS PRODUCTS</p> </div> <p style="text-align: center;">IS THE LAST COST</p> <p> ☐ No renewals are required. It has no moving parts—nothing to get out of order. Its construction is absolutely fool-proof. ☐ Economy, therefore, is another advantage of the machine. ☐ Add in, simplicity of operation, silence short time exposures, and an attractive initial price and you have a few of the reasons for the general preference for the Silent KAYESS. ☐ Other reasons and in fact the whole Silent KAYESS story is given in the catalogue. Write for a copy. </p> <div style="text-align: center;"> <p>Manufactured By</p> <p>The Kny-Scheerer Corporation</p> <p>X-Ray and Electro-Medical Department</p> <p>404-410 West 27th Street New York</p> </div>	<p style="text-align: center;">X-RAY TRANSFORMER</p>

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It is an ideal material for lining sensitive cavities and capping exposed or almost exposed pulps; always works perfectly; is a mild, soothing, germicidal, non-irritating material that will set under saliva.

\$1.50 per package

Formula of J. A. Williams, D. D. S.

MAUFACTURED BY

KING'S SPECIALTY CO.

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YOUR DEALER CAN FILL YOUR ORDERS FOR

Dr. R. B. Waiter's

ANTISEPTIC LOCAL ANAESTHETIC

WITH COCAINE

WITHOUT COCAINE

(Novocain)



IT IS ABSOLUTELY STERILE

Needs no boiling

IT IS ABSOLUTELY PURE

Every ingredient 100% Proof

IT WILL NOT DETERIORATE

But will keep indefinitely

IT IS A PERFECT ANTISEPTIC

Therefore the tissues heal quickly and perfectly



PRICES

\$.70 per oz. in one and two oz. bottles.

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THE ANTIDOLOR MANUFACTURING CO.

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There is a Lincrown to fit every tooth

You need not hesitate about using LINCROWNS for fear that you will be unable to find a LINCROWN to fit each case that presents itself.

For the selection is such and LINCROWNS are adjustable to an extent which makes it possible to fit any tooth. No impression or bite is necessary.

You grind and prepare the tooth for the crown. Then you take wire measurement and order by letter and number, the latter being secured by comparison of your wire measure with measurement guide, from which the following illustration is taken. Send for the complete guide.

The numbers indicate the size of the crown that nearest fits the case. The letters indicate the price.

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C5	C6	G7	G8	F9	F10	F11	D Crowns 1.50
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VULCOLOX

(Patented)

TEETH

Mean Sound Strength

The soundness of the strength afforded by the Vulcolox attachment is clearly understood by an analysis of its construction.

In the Vulcolox Tooth the porcelain diminishes gradually from the linguo-gingival margin. The shut is recessed from the ridge-lap almost to bite, with an overhanging rim of porcelain around three sides of the retention.

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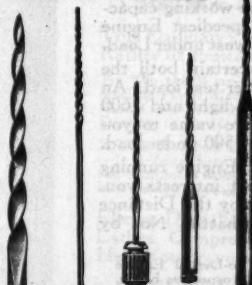
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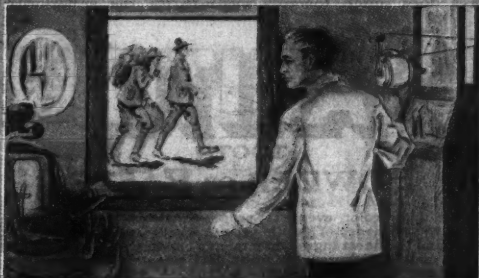
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